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THE POLITICAL PHILOSOPHY OF JEAN JACQUES ROUSSEAU.¹

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OF Rousseau's political ideas none is more central for his constructive philosophy than his conception that the renewal of civilization must come through the sovereignty of the general will. We must therefore enquire how this conception took shape and what were the motives which inspired it. The main motivation seems clear enough. Despite the rosy optimism of the Enlightenment, and the Encyclopædistes in particular, Rousseau was convinced that the civilization of his day was radically corrupt, founded as it was on an immoral relationship, that of master and slave. This indeed is the central conviction which gives force and substance to the famous Second "*Discours*" of 1755 "on the origin and foundations of inequality among men." The rich and powerful, being threatened by the combination of the poor against them, contrived, we are told, "the most deeply calculated scheme which has ever entered into the wit of man." They took advantage of the ignorant shortsightedness of the multitude to enslave it. To the masses, good at heart, inspired by a passion for individual liberty, suffering continually from the cruel evils of war, there was proclaimed an order of liberty under law, and of peace through union under a supreme power. Through this ingenious but fraudulent pretence, prevailing inequalities were legalized in favour of the stronger, and allowed to develop unmolested under the ægis of established and recognized right. The scheme was as plausible as it was ingenious. The deluded creatures ran to meet their chains, and the sequel is just the familiar story of the riveting of a régime of force on a decadent and enslaved humanity. Men gradually lost the feeling of pity. There grew up instead the love of power with an increasingly crafty intelligence as

¹ I have made use throughout of Dr. Vaughan's edition of the Political Writings of Rousseau, and have found his own Introduction most valuable. This edition will be referred to as "V."

its purveyor. And with what result? The intellect harnessed in the service of power has had indeed its astounding triumphs. But virtue has been sacrificed to knowledge, and we are therefore left in the end with that unnatural state of inequality in which children rule their elders, fools lead the wise, and a mere handful revel in superfluity whilst the masses go hungry for lack of bread.

Such, in outline, is Rousseau's conviction. Civilization is rotten because it is based on force and fraud, because cleverness has been put before virtue, because the laws have expressed the wills of the selfish few and been slavishly obeyed by the many. And the suggestion lies near that a cataclysm or a revolution that would shatter this monstrosity to fragments and restore once more to men their primitive good nature and love of individual liberty would be the best that could possibly happen. The argument does not prove, or attempt to prove, that civilization as such is necessarily bad. What is bad is the civilization that rests on a corrupt foundation. There remains the possibility of renewal. But the view held by the eighteenth century rationalists that reason could be trusted to carry out a gradual work of reform on the basis of the *status quo*, and, precept upon precept, line after line, trim off all existing irrationalities, was repugnant to the clearer and intenser thought of Rousseau. Rousseau realized that where the basis was rotten only revolution could effect a cure, and that to tinker with the symptoms served only to embroider a vice or to perpetuate it by rendering it more tolerable. We must get back to Nature, and starting afresh from this immemorial foundation set up civilization once again on a new cultural basis—the basis of Right.

With the conception of Right we reach the threshold of the *Économie Politique* and the *Contrat Social*. The *Économie Politique* dates from the same year as the Second Discours. It was originally published as an article in the fifth volume of the *Encyclopédie* and appeared in 1755. The *Contrat Social* was first published many years later, in 1762, though in its earliest form it was probably begun as early as 1755, or even earlier, and developed in the three or four years which immediately followed. For the purposes of the present sketch there is no need to give separate consideration to the *Économie Politique*, since its central ideas, the conception of the corporate self, of the general will as its organ, and of the law as its outward expression, are also the central ideas of the later work.

The opening pages of the *Contrat Social* carry on the main argument of the *Deuxième Discours*. We learn in the first place that the net result of a régime of force and fraud is

the complete enslavement of the rulers as well as the ruled. The latter can be governed only through their prejudices to which the former must eventually conform. This thought meets us in the famous opening lines of the first chapter: "Man is born free and everywhere he is in chains. Many a one believes himself the master of others, and yet he is a greater slave than they." As Rousseau put it in the *Emile*, published in the same year as the *Contrat Social*: "Supremacy itself is slavish when it holds on to opinion; for you are dependent on the prejudices of those whom you govern through prejudice. To lead them as you would wish to lead them you must behave as they would have you behave" (*Emile, Livre II, Œuvres II*, p. 50).

A second thought is that this slavish might which rules a world in chains cannot in any sense constitute a right. "Force," argues Rousseau, "is a physical power, and to yield to it an act not of will, but of necessity, or, at the most, of prudence." Hence the obligation to obey superior force ceases with the compulsion to do so. It is true that men speak of the right of the strongest. But the phrase simply embodies the recognition that power is secure only when upheld as a right, and obedience truly dependable only when claimed as a duty. The right of the strongest is therefore a mere cant phrase which adds nothing at all to the meaning of force. To say then that might is right is to say that there is no right recognized at all, and that might has taken its place.

A third thought concerns the right of the slave to rebel, if so be he may thereby regain his freedom, his human birth-right. "If men recover their freedom," says Rousseau, "by virtue of the same right by which it was taken away, either they are justified in resuming it, or there was no justification for depriving them of it." Should the slave regain his freedom by force he will be repaying his master in his own coin, and faithfully fulfilling the spirit of the order under whose sanction he was originally enslaved.

Through the development of these three ideas—(i) that the master is as much a slave as his own chattel, (ii) that his might is in no sense a right, (iii) that the slave has a right to use force to regain his freedom—Rousseau paves the way for the renewal of civilization on the basis of Right. The existing civilization he held to be founded on might, and its own logic therefore ordained its overthrow so soon as some greater might could be found to supersede it. If that greater might should itself acknowledge the rule of right, civilization would be set on a new basis, and something like an Ideal State have become once again a legitimate human dream.

We should bear in mind at this point that Rousseau's reconstruction of the origin of the State, like Plato's in the Republic, is ideal rather than historical. The earlier draft of the *Contrat Social* explicitly rejects the historical character of the Contract and treats it purely as an idea of Right. "There are a thousand ways," says Rousseau, "of herding men together; there is only one way of uniting them. That is why, in this work, I offer only one method for the formation of political societies; although among the multitude of aggregations actually existing under that name, there are perhaps no two which have been formed in the same manner, and not one which has been formed after the model I lay down. But I am in search of right and reason, and am not concerned to wrangle over facts" (Vaughan, I, p. 439). That is sufficiently explicit and there is nothing in the later draft which contradicts the statement. It is known that Rousseau hesitated considerably over the title of his main political work. At one time he proposed calling it "*De la Société Civile, ou Principes de Droit Politique.*" The title eventually chosen was "*Du Contrat Social, ou Principes de Droit Politique.*" Thus Rousseau never doubted at any rate that the real subject of his work was the Principles of Political Right, and it is in the *Contrat Social* that for the first time the question of Right is put in the very forefront of the argument as a question of political principle reaching down to the very roots of human nature.

We shall reach a clearer conviction on this important point if we stop awhile to consider what it was precisely that Rousseau understood by the *state of nature* to which we are bidden return, in spirit at least, as the only proper foundation for the recasting of political society.

By the state of nature Rousseau does not mean some state of innocence in which man lived before the institution of society. It is rather the psychological state reached after purifying the individual life of all its social admixture. It was Rousseau's belief that the individual, apart from any social relationships, has a psychological constitution *qua* isolated individual. To reach back to this constitution was to reach back to the natural man. The problem was psychological, not historical. In the preface to the Second *Discours* Rousseau explicitly warns us that the state of nature is one "which exists no longer, perhaps never did exist, and probably never will." And he continues: "Let us start by putting all facts aside as irrelevant. We should not take the studies we may make in the matter for historical truths, but only as reasonings of a hypothetical character, better adapted to

shed light on the nature of things than to indicate their true origin."

For Rousseau the natural man, psychologically considered, is just a superior kind of animal, quite non-moral and only potentially rational. The general will is not active in the state of nature, and apart from the general will there can be no morality. In the natural state instinct suffices and reason is wholly undeveloped. Reason is not needed, for it is the organ of man's adjustment to his social environment, and the natural state is non-social. On the other hand, the natural state is marked by a fine adjustment to the physical environment. This is regulated by instinct, though the natural man is also a creature of impulse and sensation. What he lacks is any power of prevision, and living as he does a moment at a time he is never discontented. He has reached stable adjustment with his environment. He has all that he desires because he only desires what he has.

It is from this point of view that we have to consider the liberty which is of the very essence of man's state of nature. It may be best characterized as liberty under natural law, where by natural law we mean the order of external nature. So far is it from being the mere liberty of caprice that it is the very opposite. Let a man first divest himself of all his social interests and relations, and then seek out the support he needs to subsist under the desocialized conditions, he will find himself closely adjusting himself through the native instincts of his individuality to the inflexible requirements of the natural order. Liberty, even in the state of nature, is liberty under law.

Meanwhile, deeply embedded in this primitive nature lies the seed of human perfectibility, requiring only the external stimulus of a developing environment to stir it into active life. The causes which induce men to co-operate for certain purposes and to satisfy certain needs are already an incentive in this direction, but, according to Rousseau, mere community is not enough to constitute a true human society. The living bond is still lacking which can alone transform an aggregate into a unity. That bond is the general will. Until the individual wills of men in the state of nature have felt the inward pressure of a super-individual yet personal will, and bowing before it have agreed to surrender up their natural individuality to its supreme direction, there is no society, no morality, no common political life.

How this spiritual pressure comes to be felt by the natural man is not clearly indicated. The assumption most in harmony with Rousseau's general outlook is that among the instincts of the natural man is a quasi-religious instinct,

an emotional intuition of an innate kind which awakens under the stress of need when nature has grown too niggardly and man's equilibrium with the forces of nature is broken. Rousseau has many names for this organ of profounder perception: *Sentiment*, *sentiment interne* or *intérieure*, *conscience*, *lumière naturelle*, *instinct moral*. Through this channel, as it has been stated, "man comes in contact with super-sensible reality and is furnished with the spiritual facts upon which his moral and religious life is built" (Norman Wilde, *Mind*, January, 1917, page 21). Diderot in his *Encyclopædia* article on *Droit Naturel* explicitly connects the conscience of the individual man with a source of pure reason in the depths of his being, and identifies it with the general will. The general will, he tells us (Vaughan, I, 432), is in each individual, a pure act of the understanding which in the silence of the passions, reasons out our obligations to our neighbours and their obligations towards us. To Rousseau the source of right in the individual soul is revealed to it through sentiment rather than through reason. "Too often does reason deceive us; we have only too good a right to doubt her; but conscience never deceives us. She is the true guide of man; she is to the soul what instinct is to the body; he who obeys his conscience is following nature and need not fear that he will go astray." It would seem, then, that when we get behind Rousseau's actual words to the psychological state which they depict, we are led to conclude that it is the dawning of the religious sentiment, the awakening sense of his spiritual nature which first perplexes the natural man with the novelty of the moral and political problem.

In support of this interpretation we note that the very conditions of the problem are, in a sense, specifically religious. They concern the complete surrender of the individual will to a will that transcends it and possesses it, a surrender through which the individual's natural liberty is at first alienated and then resumed on a higher level. No one is harmonized with the law of his own being, says Stanley Hall ("Adolescence," II, 305), who at a certain period does not feel the passion of surrender. And once this passion is felt, the main psychological condition is given for the recognition of the sovereignty of the general will. The inner meaning of Rousseau's thought at this transitional point is, I believe, best interpreted if we attribute to him the conviction that the renewal of civilization depends not only on our shedding off the accumulated prejudices of a *régime* that rests on the master-slave relation, the rule of force, and getting back to the primitive good nature, honest though stupid, which underlies all the perversions of a falsely-principled social order; but also

on the religiously directed insight which necessarily supervenes when this evil incubus is removed, enabling the individual at least to feel that the true line of human perfectibility lies in the surrender of his individual will to a will of whose presence and nature he has as yet only a shadowy intimation, yet a will transcending his own and the sole source of his distinctively human dignity as a rational being and a moral agent. The new civilization which is to be essentially rational and moral, must rest on the will to surrender all natural inclinations to the supreme requirements of the common weal.

The suggestion we have been developing is an attempt to set Rousseau's conception of the state of nature, as the right seed-plot for the first inception of a general will, in as favourable a light as possible. There are many, Dr. Vaughan among them, who hold that Rousseau's notions of the state of nature and the social contract based upon it are the illogical antecedents of his central theory of a general will, legacies from the influence of Locke, characteristic expressions of an individualism which is wholly out of harmony with his own political system, a system which ruthlessly subordinates the individual to the general will and is in fact anti-individualistic to its centre. How, it is argued, can individuals who, as in the state of nature, are non-moral, non-rational, without sense of duty or justice, have the least inkling of the political problem, still less of its solution? These individuals are mere abstractions, and must be content to respect their abstract limitations, and neither conceive nor pretend to solve problems which to the isolated individual in the natural state are simply inaccessible. It is quite impossible for beings who cannot recognize what is rational and moral when they see it, being themselves wholly non-moral and non-rational, to propound and solve the problem from whose solution reason and morality first emerge.

I do not deny, of course, that Rousseau lays himself open to this line of attack, and this well-worn criticism may be very largely deserved. But I feel that there are certain elements of value in Rousseau's Theory of the State of Nature and the Social Contract which this criticism loses sight of, and in fairness to Rousseau, would wish to emphasize these elements. There is in the first place Rousseau's express recognition of the intrinsic perfectibility of the individual man, and of the presence in him of a capacity for reason and moral insight even when, as a non-moral and non-rational creature he roams the forests of Rousseau's logical fancy. Given the appropriate external stimulus, such capacity will exchange its latency for dynamic efficiency, become a felt need and seek

some suitable expression. Man's perfectibility is indeed his chief mark of distinction from the mere animal. It is, says Rousseau, "a faculty which through the aid of circumstance, unfolds in succession all the others, and is present alike in the human individual and the human species; whereas an individual animal is after some months what it will be ever after, and an animal species after a thousand years remains the very same kind of thing it was at the beginning" (V., I, 150).

In the second place there is an important sense in which we may grant that the individual, quite apart from any political organization, the individual in his own right and as an end in himself—to anticipate Kant's phrase—is intrinsically a free man. He has the freedom proper to every individuality who can call himself "I," and this freedom and the love of it is to Rousseau a basic quality of human nature. It is something which the Contract must honour and preserve. The natural man, as an individual and as the focus for freedom and the love of it, is not a mere logical abstraction, a residuum of individualistic analysis, but a very palpable fact to which justice must be done in any attempt to bring together the principles of political right. An individual that has no social relations running through him is no doubt a psychological fiction, but Rousseau's individual may be the centre of many social relations without his ceasing to be, from the ethical and political standpoint, a natural man. The relations may be accidental, occasional and merely external, lacking what Rousseau calls "that bond between the parts which constitutes the unity of the whole." So long as social relations remain external they may be the results of habits based upon instinct, and lack completely the inner unity distinctive of the bond that is inwardly moral and rational. Only when this inner bond is present does the social man become a political person.

We may then conceive our individuals living in a social tissue in which the relations are of this external order. As individuals they will not be abstractions. They will be Egos. As Egos they will have such freedom as belongs to the individuality as such, a freedom not to be bartered away without forfeiting all individuality. To such the first glimpse of the universal may come through a deepening of their own individual centre of vision, through a *sentiment interne* which discloses, to the feeling at any rate, the presence within the soul of a supra-individual order; and the unreasoned conviction may be quickened that it is only through surrender to this transcendent order that an individuality can find its own proper selfhood.

We have good reason to assume that this is Rousseau's real meaning. But it will not be more than *part* of his meaning as a *political* thinker, for it only partially explains the political problem he has in mind. For the full conception and solution of this problem the start must be made not from the single individual, but from an *association* of individuals. For the problem concerns the social relations, originally external, of members of a group to one another, and the regulation of those in such a way as to promote a moral and rational order, the kind of civilization suitable to an ideal state. The problem is, how can the individual members of a group live together in political unity without sacrificing their individual freedom? The old civilization rested on the master-slave relation. The new order is to rest on a basis of individual freedom. It is to be an order of liberty. Therein, for Rousseau, lies the hope of the world.

The Social Contract is Rousseau's solution of the problem of reconciling the two sovereignties, the natural sovereignty of individual freedom which in substance can never be relinquished, and the conventional sovereignty of the State over the individual, the sovereignty of the general will. Rousseau's political philosophy develops under the stimulus of this perennial opposition of conflicting interests. To insist, as Vaughan does, that Rousseau is essentially and characteristically an anti-individualist, and that his theory of the general will is the sign and seal of his collectivist convictions is to emphasize only one side of the picture. Rousseau is an individualist by temperament, and through his early Protestant upbringing also. The influence of Hobbes and of Locke worked in the same direction. But over and above all these influences there is the inner truth of the individualistic contention to reckon with and to this Rousseau appears to have been particularly sensitive: the contention, namely, that each of us as an individual, is the bearer of a certain inalienable right, the right to be an independent source of political inspiration, conviction and action, the right to be one's self against the whole world, the right to die unconquered by the concentrated antagonism of a hundred tyrants. It is to preserve this liberty of the individual agent as he attains his political majority and has to work with his fellows on a political basis, to preserve this liberty and not to supersede it, that the appeal is made to surrender all to the general will as a sovereign dictator and the Social Contract is drawn to give effect to the appeal. The situation is paradoxical, no doubt, and the paradox is reflected in Rousseau's own statement of the political problem. His words run as follows: "To find a form of Association which may defend and protect

with the whole force of the community the power and property of every associate, and by means of which each, coalescing with all, may nevertheless obey only himself, and remain as free as before."

The point of the paradox is brought out most clearly when we compare these conditions of the problem with the terms of its solution. The solution is the Social Contract itself, the clauses of which, properly understood, reduce themselves, says Rousseau, to a single one; that is, the total surrender of each associate with all his rights to the community at large. "If then," says Rousseau, "we put aside all that is not of the essence of the contract, we shall find that it reduces itself to the following terms: each of us throws himself and all his powers into the common stock, under the supreme control of the general will; and as a body we receive each individual member as an inseparable part of the whole."

It is my conviction that the paradox of the Social Contract so far as the matter is one of political principle, expresses a fundamental truth. It may seem strange at first that the liberties of the individual can be best preserved by totally surrendering them. And in so far, of course, as the conditions of the contract permit the rich and powerful to deceive the ignorant multitude as in the old tyrannous contracts which brought the master-slave dispensation into being, the total surrender would be just that of the lamb to the wolf. But Rousseau so fixes the conditions of the new contract that the surrender cannot have these consequences. The general will is not the will of a Leviathan which once created rules, an unchartered despot over the individual wills which have created it. It is a will which, however, independent of the individual wills whose common consent first brings it into sovereign being, remains so bound up in its legislative function with the continued consent of these same individual wills that its own sovereignty and the sovereignty of the people as an assembly of legislative individuals are but two aspects of one and the same moral and political order. In principle the sovereignty of the new order is simultaneously shared by the constituted authority of the general will and the individual consciences of the members of the State, for the conscience is simply the general will in the individual. What is totally surrendered, that is to say, completely subordinated to constituted authority, civic and conscious alike, is the natural liberty of the natural man, the right of the individual to consider nobody but himself. Even here, as we find on further reading, this surrendered liberty is cancelled by the general will only in so far as is necessary for the common good. The state of nature still finds its sub-

ordinate place within the civil state as an individual by-path of the political highway, a tolerated accessory of the moral order of the State. But in so far as the will of the individual opposes the general will, it must be authoritatively brought to order. The united force of the community as a whole—and this to Rousseau is far greater through its oneness of direction and intention than the summed up forces of the individual members—is to be the sanction at the disposal of the general will. "In order that the social compact may not prove an empty formula, it includes the tacit undertaking that, whoever refuses to obey the general will, shall be compelled to obedience by the whole body of citizens. But this means nothing more than that they will force him to be free," force him, that is, to exercise the freedom proper to a member of an ethico-political order.

We should note that this new *régime* which is to save civilization, is not political in any sense which might suggest a divorce between the political and the moral. In Locke's civil government the divorce is complete. The individual's moral and intellectual life is wholly his own affair. The State simply provides the machinery for enabling him to preserve his ethical interests unmolested, and for removing all obstacles from the path of his moral endeavour. The State does not touch any vital spiritual interest of his life, but simply regulates his external relations. With Rousseau it is first through the institution of the State that man acquires his status as a moral and rational individual. "To the gains conferred on man by the civil state," we read, "must be added that of his moral freedom. And it is this alone which makes him master of himself. For the promptings of mere appetite are slavery; and obedience to the law which we impose on ourselves is what constitutes freedom" (V., 40, C.S.I., viii). The nature of the moral change which marks man's entry into the political arena is eloquently expressed by Rousseau in the following passage, which clearly shows the intimate interlinking of politics, reason and morals in his great scheme of spiritual revolution. "The passage from the state of nature to the civil state brings about a momentous change in man. In his conduct it replaces instinct by justice, and gives to his acts a moral character which was wanting to them before. The voice of duty takes the place of physical impulse; right supplants appetite. Now for the first time man, who hitherto had thought only of himself, sees himself forced to act on other principles, and to consult his reason before listening to his desires. It is true that in the civil state he deprives himself of many advantages which he holds from nature. But, in return, he gains advantages so great, his faculties are so

trained and developed, his ideas so enlarged, his whole soul exalted to such a degree, that if the abuses of the new order did not often degrade him below the level of that from which he has escaped, he ought unceasingly to bless the happy moment which snatched him for ever from the old order, and which, of a stupid and limited animal, makes him a reasoning being and a man" (V., I, 26).

To sum up, then, on this crucial point of Rousseau's individualism. No psychologist nowadays would subscribe to the precise psychology of the natural man advocated by Locke, developed by Condillac and adopted by Rousseau. Nor would anyone support the suggestion that man is not by nature a social animal. The isolated, unsocialized man is a fiction. But to assert, as Rousseau does in effect, that individuality with its love of liberty and hatred of tyranny is the logical prius of a political state and a moral order is, I hold, to assert the bare and simple truth. In any reconstruction of ethico-political relations, the individual has a right—I should say a duty—to see that his individuality is respected. For it is through that individuality that those deeper levels of political conscientiousness are reached which are the mainspring of a healthy general will. Even Dr. Vaughan admits with honest reluctance that Rousseau's Social Contract as explained by Rousseau himself would, "if otherwise sound, provide a solid basis for Right." (V., I, p. 42). His objection is that it is not otherwise sound and raises more difficulties than it solves. I do not myself believe this, but let that pass that we may concentrate on the concession. "In the *Contrat Social*," writes Dr. Vaughan (*ibid.* p. 42), "Rousseau is no longer content with grounds of fact, actual or hypothetical. Nothing will now satisfy him but that the change must be based on ideas of Right. It is to provide a foundation of right for the State that he has recourse to the Contract. For the Contract is a guarantee of free consent on the part of the citizens; or, as Rousseau more accurately puts it, of the 'Associates.' And from first to last the assumption is that, unless such consent be given at the outset, the State is for ever debarred from resting upon Right." And he quotes in a footnote Rousseau's own explicit statement on the point from the *Lettres de la Montagne* (V., II, p. 200). Turning to the passage referred to in this very convenient edition, we see that Rousseau is speaking there of the foundations of political obligation. "Following the sanest group of thinkers on these matters I have set down as the foundation of the Body Politic the Convention among its members, and I have refuted such principles as differ from mine on this point. Quite apart from the truth of this principle it is superior

to all others by reason of the stability of the foundations it sets up. For what securer foundation can obligation have among men than the free self-committal of the contracting parties? This is the only principle which cannot be disputed."

My own view, then, in sympathy with these convictions of Rousseau, is that his Individualism in its deeper aspects, far from being an outworn element which collides in principle with his essential collectivism is a principle equally essential with that collectivism itself. And if Rousseau has not solved once and for all the persistent problem caused by the conflict between the particular and the general will, the individual and the State, does he not deserve some credit for this lack of finality? The problem remains with us today, as vital and formidable as ever. Is it not then better to introduce both elements frankly into our political system, pressing each factor, as Rousseau does, for all it is worth, and leaving the problem unsolved indeed but vital, challenging and full of interest, a rich legacy for the political reflection of the after-generations.

We pass on now to consider the perennial conflict between Individualism and Collectivism in the form to which Rousseau's genius has given a special impress, the stimulating but contentious relation between the will of all—*la volonté de tous*—and the general will—*la volonté générale*. Rousseau expressly tells us that these are not to be identified. "The general will is rarely the will of all" (V., I, 462). And again: "There is often a great deal of difference between the will of all and the general will" (V., II, 42). Unfortunately Rousseau is not particularly clear or consistent in his development of this fundamental difference. But through all his inconsistencies the following conclusions seem to stand out. In the first place, there is a clear sense, which Rousseau himself indicates (V., II, 42; *Contrat Social*, Ch. 3) in which the volitional element shared in common by a number of separate volitions, and in this sense the will of all, is no more than the common aspect of a number of self-seeking intentions; for when *A* and *B* and *C* desire, one and all, their own individual advantage, they all agree in this self-seeking direction of their respective wills, so that the will to seek self-advantage would be common to all of them and would be the will of all. Thus *A*, *B* and *C* covet the same object, and their intention to secure this precise object will be common to all of them. But such community of will is purely accidental. For work the distinction out and you find that *A* covets the object for his own exclusive use, and *B* and *C* do likewise. The three volitions, far from having a truly common aim, become incompatible so soon as they express them-

selves practically and work themselves out. The fact that a number of different wills have as it were a common point of intersection does not prove that they have any common purpose or aim, in the realization of which each has its personal share. Hence in so far as the will of all simply indicates a feature common to a number of private, more or less mutually exclusive interests, it differs radically from a general will which, to Rousseau, is always directed to the public interest, the common good.

On the other hand it is clear that when we speak of the will of all we may have in mind a genuine community of interest among the individuals of a group, each member having his heart set on the good of the group as a whole. In this sense of the term the will of all is not opposed to the general will, but intimately bound up with it (though it does not exhaust its meaning). Now it is one of Rousseau's main contentions that the general will can find expression only in and through the individual wills of the people, and though it is an equally important aspect of his whole view that the general will has its proper independence of all individual wills, that is only half the truth, and the dependence of the general will on the united assent and continued support of a number of individual wills is the other and not necessarily the lesser half. When each associate relinquishes his private interest in a public-spirited resolve, he does not thereby relinquish his will altogether. On the contrary, he dedicates to the institution a will that has been purified of its self-seeking tendencies and now wholeheartedly seeks the good of that institution. It is true that the will of the institution will transcend the individual wills of its founders, surviving many generations of births and deaths. But we all know that this general will of the institution, be it the State or any other corporate body, is dependent throughout for its sustenance on the support of individual wills. If public spirit languishes, and the old slavish relationships return, the State must perish, and with it the general will.

The will of all may then stand either in opposition to the general will or in unison with it; and we cannot fully grasp Rousseau's theory of the general will except as we realize its partial identity with the will of all in so far as that will expresses the public spirit of the members of an institution.

But let us turn to the more objective, transcendent aspect of the general will, the aspect in which stress is laid on its independence of all individual influence and support, and to its function as the bond of social union, the authoritative source of morality and political right. In the *Economic Politique* (V., I, 241), Rousseau had already come to regard

the Body Politic as a moral being possessing a will of its own, the general will, a will directed always towards the good of the whole. This view is endorsed and developed in the *Contrat Social*. There the general will is referred to as the will of a moral person whose life and personality consist in the union of its members; and again as "a moral and collective Body, composed of as many members as there are individuals in the Assembly," and receiving through the Contract its unity, its corporate personality, its life and its will. A city or republic is a public person of this kind, though we must take care in this case to distinguish city sharply from town. It is the houses, says Rousseau, that make the town, it is the citizens who make the city.

That the State or the Nation is in some sense a person is a plausible contention. When we claim for a State that in its relations to other states it should be treated as an end in itself and never as a mere means, we are simply claiming for states what we claim for individual personalities in order to distinguish them from mere things. States like individual persons are subjects of rights and duties, they are moral entities rationally constituted. For Rousseau this moral person, the State, has for its living members the citizens themselves, and its unity and freedom consist in their unity and freedom. Its distinctive will is the general will, the will directed towards the common good, and it depends for its application at every turn on the free consent and critical approval of its citizen members.

Rousseau's Ideal State is conceived on a small scale. It should be a city like Geneva rather than a state like France. And it must needs be small, since it refuses to adopt the principle of representative government. The citizens must attend the Assemblies and legislate in person. The question then arises: How does Rousseau propose to deal with the inter-relations of these small city-states? The answer is that since they must resemble the relations of individuals to each other in the state of nature, they must contract with each other to secure some sort of federal union. There is a passage in the *Emile* which informs us that the complete treatment of Public Institutions which Rousseau has set himself as a task, and of which the *Contrat Social* is in all probability the introductory fragment, would have contained a chapter on the federation of these free cities into larger states. "We shall examine finally the kind of remedy that men have sought against these evils (*i.e.*, tyranny and war, 'the two worst scourges of mankind') in Leagues and Federations, which, leaving each state master in its own house, arm it against all unjust aggression from without. We shall enquire what

are the means of establishing a good form of federal association, what can give it permanence and how far we can extend the rights of the Federation without trenching on those of Sovereignty" (V., I, 96).

There is strong evidence that Rousseau actually wrote a Fragment of some length—sixteen chapters, on the subject of Federation. But the friend to whom he committed it took fright in the early months of the Revolution and destroyed it. The loss of these chapters is most regrettable. Federation is indeed for Rousseau the necessary second chapter in the story of the Social Contract. It completes the work of drawing men from the state of nature which the Contract had begun. Further, to quote the words of Dr. Vaughan, "Federation is in a special sense the interest of the small state rather than the large. It is the weapon with which both reason and experience teach the small state to arm itself against the greed and insolence of the large. That is the reason why Federation lay so close to the heart of Rousseau. In his view it is the only means of preserving the small state, which to him is the only state worth having, from being swept, as in a tempest, off the face of the earth."

And Rousseau's Commentary on the Abbé de St. Pierre's Essay on Perpetual Peace bears directly on the meaning and value of Federation as the only method for securing permanent and universal peace among the nations. The federal union of the States of Europe—"the United States of Europe" in Victor Hugo's famous phrase—is here acclaimed as a splendid ideal. But is it practicable? Rousseau's concluding words are significant. "We do not see federative leagues establishing themselves otherwise than through revolutions: and, on this basis, which of us would dare to say whether this European league is to be desired or to be feared? The harm it might immediately precipitate would perhaps work more evil than the centuries of harm it might possibly avert." (V. I, 396).

We come now to the last phase in Rousseau's logical development of political fundamentals, to his conception of law. The notion of law is inseparably connected in Rousseau's mind with the general will. It is its voice or organ and its only fit vehicle of expression. "By what mysterious skill," says Rousseau, "was the means discovered for bringing men into subjection in order to make them free? for employing in the service of the State the possessions, the arms, the very life, of all its members, without constraining them and without consulting them? for entralling their will with their own permission? for vindicating their consent against their refusal, and for forcing them to punish themselves when they do that which they have not deliberately willed? How can it come

about that they obey while none commands them, that they are servants and yet have no masters: all the more free in truth, because, under the appearance of subjection, no one of them loses any part of his liberty except that which runs counter to the liberty of another? These miracles are the work of the Law. It is to the Law alone that man owes justice and freedom. It is this beneficent organ of the will of all which re-establishes in the world of Right the equality which belongs to man in the State of nature. It is this voice from heaven which dictates to man the commands of the corporate reason (*la raison publique*) and teaches him to obey the maxims of his own judgment and not to be for ever in contradiction with himself. The laws constitute the sole motive power of the body politic, which acts and feels only through them. Without them, the State would be nothing more than a body without soul, bare existence without action. For it is not enough that each should submit himself to the general will. In order to comply with it he must know it" (V. I, 62).

The law, then, is the expression at once of the citizen's individual freedom, and of the sovereignty of the city-state. To be free, according to Rousseau, is to be free under law. The ideal of the city-state will be reached and the liberty of the citizens guaranteed only when the wills of all have adjusted themselves to a perfected scheme of law in a way analogous to the adjustment to natural law under the state of nature. But the new adjustment will be on a far higher and more stable level. It will be the harmony of the rational and moral aspirations of men with their own perfected institutions of ethical reason. "It is futile," writes Rousseau, in his Letters from the Mountain, "to try and identify independence and liberty. The two things are so different that they even exclude each other. When each does as he pleases, he often does what is displeasing to others, and we cannot call that a state of freedom. Liberty consists less in doing what one wills than in not being subject to the will of another; it consists again in not subjecting another's will to our own. Whoever is master cannot be free; and to rule is to obey . . . I know of no will that is truly free except the will that no one has the right to oppose. In the case of our common liberty (*liberté commune*), no one has the right to do what the liberty of another forbids: and true liberty is never self-destructive. Thus liberty without justice is a veritable contradiction; for, however you take it, the execution of a disordered will is hampered at every turn."

"There is then no liberty apart from laws," continues Rousseau, "nor is there any where the individual stands above the laws: in the state of nature man is free only through favour of the natural order (*loi*) which is binding on all. A

free people obeys but it does not serve; it has chiefs but not masters; it obeys laws but it obeys laws only; and it is through the power of the laws that it yields no obedience to men. All the barriers set up in Republics to limit the power of the magistrates are there only to protect the sacred enclosure of the laws from their attacks. They are the ministers of the law and not its controllers; they should protect and not infringe it. A people is free, whatever form its Government may take, when it sees in whomsoever governs it, not a man, but an organ of the law. In a word, liberty and law stand or fall together. I know of nothing more certain than this."

Apart from law there is, then, for Rousseau, no political morality. Law, he tells us, is anterior to justice and not justice to law. This view expresses a broad and living conception of the meaning of law. It holds that the most fundamental law of all is that which is implicit in the very terms of the Social Contract, the law that each associate shall always prefer before his own individual good, the greatest good of all. Moreover, Rousseau includes within his system of law the code unwritten save in the inmost hearts of the citizens. It is this unwritten, unrecognized law "which makes the constitution of the State; which renews its own energies day by day; and when other laws grow old or defunct, revives them or fills their place, keeping a people true to the spirit of its own institutions and insensibly substituting the force of habit for that of authority." "I am speaking," Rousseau continues, "of manners and customs; that portion (of our legislature) unknown to our politicians, though the success of all other portions depends upon it; that portion over which the great legislator ponders in secret, whilst he appears to restrict himself to the particular regulations which are but the arch of the vault whereof popular custom, more slow to develop, forms the unshakeable keystone."

As the organ of the general will the law must be general both in its source and in its application. As the expression of the people's sovereignty it must rest on the consent of the whole community for it is with the individual citizens that the true sovereignty ultimately rests. Sovereignty, as Rousseau understands it, is the authoritative exercise of the general will in accordance with the Law. It is the absolute power which the Social Contract gives to the body politic over all its members, in so far as this power is directed by the general will. And the only seat of the general will is the general assembly of the citizens. Hence sovereignty belongs exclusively to the general assembly in their general, *i.e.* in their legislative capacity. The general will has only one form of self-expression: that is, the decreeing and authorizing of laws, a law being an enactment in which the whole people decree concerning

the whole people. A law is a general decree. A particular decree, a decree concerning a particular object and referring to it by name, is not a law at all. It is an act not of sovereignty but of magistracy. Thus the sovereign power has its intrinsic limits. It cannot pass the limits of general conventions.

Under the universality of law, as Rousseau proclaims it, we must understand two things: (i) that no exception is admissible, (ii) that no legal decree may refer to an individual by name. As regards the first requirement there is a tendency to confuse it with the idea that a law must not include within its statement any exception even of a general kind. But clearly the universality of the law is not affected by the inclusion of such an exception. The law which states "Thou shalt not lie except to outwit a foe or save a friend" is just as general in its character as the simpler and more fundamental law which baldly states "Thou shalt not lie." On the other hand the law which states "Thou shalt not lie except when thou feelest so inclined" is in contradiction with the very idea of law, which maintains that law must be obeyed whether we feel inclined to obey it or not. The included exception is in this case really an exception to it and is therefore illegitimate.

As regards the second point, there has been some difficulty in fixing Rousseau's meaning. When we are told that a law is an enactment in which the whole people decree concerning the whole people we are apt to infer at once that every law must bear equally on every individual of the community and that laws bearing on groups, taxation laws for instance, which hit the rich more heavily than the poor, are not laws in Rousseau's sense of the term.

Dr. Vaughan has the following pertinent remarks on this point. "A law," Rousseau insists, "must always be general in its scope. If it be aimed at any one man or group of men, it is null and void. Now it is safe to say that, on any strict interpretation of this canon, a large number of the laws enacted in all states ought never to have been passed. An Act regulating the Liquor Trade or Limited Liability Companies, an Insurance Act, a Merchant Shipping Act—all these are directed against—at the least they injuriously affect—particular classes or groups of men. All therefore are, on Rousseau's principles, so many violations of the Right. Yet without them, no State, especially under the enormous complexity of social and industrial relations at the present day, could hold together for a moment." It seems to me that Rousseau has really guarded himself quite explicitly against this criticism. "When I say that the matter of the law is always general, I mean that the law considers agents in

a body, and actions abstractly; and never a man as an individual or an action as particular. Thus the law may decree that there shall be certain privileges, but it cannot accord these privileges to anyone by name. The law can determine several classes of citizens, but cannot assign such and such individuals to such and such classes. It may legalize a royal government and a hereditary succession, but it cannot elect a king or name a royal family. In a word, no function which bears directly on an individual object can pertain to the legislative power." The whole stress, it will be seen, is laid here on the exclusion of the individual person or the individually indicated group, but not on the group with its general label. An act directed against this or that limited liability company would be an act of magistracy, but an act dealing with limited liability companies of a certain specified kind would be an act of legislative sovereignty.

At this point we reach the limit of Rousseau's purely logical development of the requirements of a new civilization that shall rest on the free consent of the peoples, and ratify that freedom under the sovereignty of the general will as expressed through the great agency of law. It is along these lines, as we have seen, that Rousseau develops his *principles* of political *right*. But Rousseau is as much interested in the concrete happiness of a people as he is in the rightness of their political foundations. To suppose that Rousseau is not fully alive to the expediencies and proper compromises of practical government is to misunderstand completely the mind of a writer who spent most of the energy of his maturer years in pondering the problems of practical administration. It is one of the great merits of Dr. Vaughan's edition of Rousseau's political philosophy that he has left this point abundantly clear. In one of his discussions of the point he starts by laying before his readers two rather startling statements from the *Contrat Social*. "Before putting up a large building, the architect observes and tests the soil, in order to see if it can bear the weight. In the same way the wise lawgiver begins not by drawing up the laws which are the best in themselves, but by examining whether the nation for which they are destined is capable of bearing them." Again, "Liberty is not a fruit which grows in all climates. It is therefore not within the reach of all nations. The more we reflect on this principle established by Montesquieu, the more its truth will be felt. The more it is disputed, the larger the opening for establishing it by fresh proofs." Now if title-page and another's name were not there to prove it, who would ever have guessed that these sentences were written by Rousseau? Who would believe that more than a fifth part of the

Contrat Social is devoted to expounding them? Or that the whole of the author's subsequent work in politics—the three treatises which close Dr. Vaughan's edition—is nothing more nor less than an application of the principles here summarily laid down?"

We need not enter into the detail of these developments in which the influence of the author of *Esprit des Lois* is so strongly and so decisively marked. We could simply point out how Rousseau proposes to effect the somewhat delicate transition from the laying down of the principles of Right to the more turbid conditions of practical expediency.

The argument runs thus: The requirements of political principle leave the sovereignty in the hands of the individual citizens, in hands which are as certain to bungle the legislative work entrusted to them, as their hearts may be trusted to work from the right motive. The sovereign power is pitifully ignorant. Its heart is good, its hands are willing, but its head is weak. The Sovereign Assembly, to quote Rousseau's own words, is "a blind multitude which often knows not what it wishes because it rarely knows what is good for it." "The people must be taught to know what they require." They must be guided by some genius who shall be as familiar with the principles of Right as Plato's philosopher-king with the Idea of the Good, as wise in applying these principles under given conditions as in grasping their ultimate moral bearing; and, moreover, infinitely discreet in advising the people and avoiding any semblance of usurping the sovereign authority which rests with the citizens in their corporate capacity. Rousseau refers to this remarkable being, this vital connecting-link between principle and expediency, between sovereignty and magistracy, state and government, as the Legislator. The Legislator must be a sort of divine man who has not only the genius to make the gods his oracles, but also to make himself believed when he proclaims himself their interpreter. And his task is the harder in that it cannot depend for its success either on force or on reasoning. "He who controls legislation," says Rousseau, "ought not to rule men," otherwise private interests would tend to intrude upon and corrupt the sacredness of his work. And since the mass of the people are uneducated, the Legislator must forgo the appeal to reason. In a word he must "compel without violence and persuade without convincing." This legislative office is neither sovereignty nor magistracy. It constitutes the republic and yet does not enter into its constitution. Its function is to frame laws and propose these to the Sovereign Assembly, who alone possesses the authority of the general will, without which there is no sovereignty.

Of the three main corner-stones of Rousseau's *political democracy*, (1) that the people is good and must therefore be *trusted*, (2) that the people is the sovereign ratifier of law, and must therefore be *respected*, (3) that the people is stupid and ignorant and must therefore be well advised, it is the third which Rousseau, the Legislator for Corsica and the Adviser of the Polish Government, is, in his heart, most inclined to insist on.

The History of Democracy since Rousseau's day has shown that he did well to put a more fundamental trust in the goodness of the people than distrust in their intelligence. Rousseau had recognized that the ultimate fact of human nature was its passionate love of liberty. Hence wherever the Spirit of Revolution has raised the banner of freedom above the heads of tyrants and oppressors, the name of Rousseau has been revered as a champion of the people. So it was in 1789. So it should be still. And indeed we have the best possible evidence that even the modern conception of nationality—a conception undeveloped in the eighteenth century—still reflects the political principles of Rousseau. Let me quote a page from an Essay by M. Emile Boutroux on the French conception of nationality. "The Declaration of 1789," he writes, "had proclaimed as had also America, that men are born free, and equal in their rights, and that they continue so. The French theory of nationality consists in extending to nations that which, in this maxim, is affirmed of individuals."

According to the doctrine which inspired the Declaration of 1789 the basis of right is nothing else than personality. Now the French doctrine consists in recognizing that personality may be found in nations as well as in individuals, and that, wherever it exists, it carries with it the same dignity and brings to pass the same consequences. Any nation in which the conditions of personality are realized must for that very reason claim its liberty by the same right as other nations which possess the same character.

Now, what is the expression and sign of personality in a nation? According to the French way of thinking, it is the consent of the inhabitants, their conscious will to live together and form a political community. In this philosophy, a national consciousness is a true self-possessing being, a self-willing unity. A national consciousness is a reality by the same claim as an individual consciousness, for it is nothing more than a conscious and deliberate agreement or harmony of individual consciousnesses."

Here then we have the principle of popular consent, the recognition of a nation's moral personality, and the insistence

on Right—in a word, the echo and endorsement of Rousseau's political principles.

If, now, looking another way, we would fix the main directions in which the growth of our modern social and political life has taken us beyond the limitations of Rousseau's political ideals, we would indicate two main developments: (i) the expansion of Rousseau's ideal city-state into national and imperial conceptions of union on a democratic basis of political liberty. If Rousseau were writing today, the political fabric of the British Empire would be of surpassing interest to him, and would engross him in the new problem of an Ideal Federal Union. And (ii) we would point to the growth of corporations of every conceivable kind as a *tertium quid* between the individual citizens and the power of the State. This is probably the most significant political change of all. Rousseau had dimly foreseen this development and sought to discourage it on the grounds that it would mean a divided allegiance on the part of the citizen. But the group-principle with its group-loyalty has come to stay, and the old problem of the relation of individual to state is now very largely resolving itself into the more complex problem of the relation of individual to corporation, on the one hand, and of corporation to state on the other.

But though the Rousseau of the twentieth century would have modified his political convictions in the light of these two stupendous changes—the growth of the sentiment of nationality and of empire on the large scale and the growth of intermediate corporations between individual and state—it is quite certain that the most fundamental conviction of his political philosophy would have remained steadfast and unchanged. We should still be listening to his sustained vindications of the Idea of Right as the unshakeable cornerstone of every political structure. Dr. Vaughan is on this point our most trustworthy witness. "An evil tradition—a tradition as irrational as it was cruel—had come down from the past. It was not by an appeal to the past, but by a return to the first principles of reason and conscience, that the wrong was to be redressed. Here, as always, it is not the fact but the Right, which is in question. Here, as always, it is not (as Rousseau himself put it) 'the Right which has to be established from the facts, but the facts which have to be judged by the Right.' Few men have grasped this fundamental truth so firmly as Rousseau. And that is why, in this, as in other matters, his work forms so memorable a landmark in the history of mankind."

EINSTEIN AND PRE-RELATIVITY PHYSICS.

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IN Vol. XXIX, N.S. No. 116 of *Mind* is to be found a symposium entitled "The Philosophical Aspect of the Theory of Relativity" wherein the special theory of relativity is adversely criticized, from the standpoint of philosophy, by Mr. W. D. Ross. Professor C. D. Broad contributes an article in support of the theory, in which he deals with Mr. Ross's objections under four heads, *viz.*, the objection (i) that though the constancy of the velocity of light is the key-stone of the special theory it is discarded in the general theory; (ii) that relativists have not considered sufficiently the possibility that the earth may be at rest in the ether; (iii) that the conclusion that motion is relative involves, as a premise, the conception of absolute motion; and (iv) that Einstein's definition of simultaneity is logically circular.

I think most people would agree that Professor Broad deals clearly and conclusively with the first two questions; therefore I will not refer to them again in this article. But with regard to the last two I believe that some minds still find difficulties and uncertainties. I know that in some philosophic quarters Professor Broad's treatment, for one reason or another, fails to convince; and I suspect that, although the discussion in the symposium is some years old, not a few philosophers would still regard such criticisms as Mr. Ross brings forward as effective. Hence this attempt to elucidate the subject on lines not altogether parallel to those followed by Professor Broad.

Those of Mr. Ross's criticisms to which I will confine myself are directed against the reasoning in Sections VIII and IX of Einstein's popular exposition "Relativity: The Special and General Theory" (English translation). I think that Mr. Ross's difficulties arise partly from misapprehension of the meaning of the text and partly—and this is more fundamental—from failure to realize what the author is trying to do in these sections. For this failure I think Einstein is in part responsible. When a writer states the views of his opponent and omits the somewhat wearisome repetition of such words as "my opponent thinks" so-and-so, "his view is" so-and-so, there is always a chance that his reader may confuse some of the views so set forth with the author's own views, especially if the arguments are conscientiously put forward with persuasion and force. And it is sometimes difficult to

distinguish the point where the opponent's argument ends and the author's begins. I think that want of precision on this point mars Einstein's otherwise illuminating book, and that Mr. Ross, as well as many other readers of it, have thereby been misled into imagining that certain reasonings in Sections VIII and IX form an integral part of the theory of relativity when in reality they are pre-relativity reasonings exhibited for the very purpose of exposing their inadequacy.¹

Section VIII of Einstein's book is entitled "The Idea of Time in Physics." We must be careful not to understand the word "physics" as meaning the physical science of today, permeated as it is by relativity concepts. At the stage of Section VIII in his exposition Einstein could only mean pre-relativity physics. The section opens: "Lightning has struck the rails on our railway embankment at two places A and B far distant from each other. I make the additional assertion that these two lightning flashes occurred simultaneously. If now I ask you whether there is sense in this statement, you will answer my question with a decided 'yes.' But if I now approach you with the request to explain to me the sense of the statement more precisely, you find after some consideration that the answer to this question is not so easy as it appears at first sight." The person here addressed I take to be one imbued with pre-relativity concepts, not one at whose feet Einstein is sitting in order to learn the new ideas; and I will refer to him hereafter as "the physicist." He is asked to define what he means by the simultaneity of two objective events separated by a distance; I will call such events "spaced" events. He makes suggestions in this direction which Einstein criticizes until the discussion issues in a form of statement which, so the physicist succeeds in convincing Einstein, is logically coherent and experimentally applicable. Nothing is said about its being true, only about its having a definite observational meaning. This is the statement: "By measuring along the rails, the connecting line AB should be measured up and an observer placed at the mid-point M of the distance AB. This observer should be supplied with an arrangement (e.g., two mirrors inclined at 90°) which allows him visually to observe both places A and B at the same time. If the observer perceives the two flashes of lightning at the same time, then they are simultaneous."

This is the physicist's definition: We must recognize that what tacit approval Einstein accords to it must have reference only to its satisfactoriness to a single observer, or to

¹ In a discussion article, "Simultaneity and Relativity," in a previous issue of this Journal (March, 1927), this matter is dealt with in more detail.

a group of observers at rest in relation to him. Einstein of course knows the fate which awaits the above definition in Section IX, when an attempt is made to apply it to the case of observers in relative motion; and we all know that his theory implies the non-existence of such "public" simultaneity.

The definition postulates two couples of events; the two strokes of lightning, which occur first, and then the two reflections, which are perceived. The former are said to be simultaneous if the latter are so. This is criticized by Mr. Ross as follows: "The definition is obviously circular, and it becomes clear that what Einstein is looking for is not a definition but a test, and a test not of simultaneity but of the simultaneity of two events not directly observed; for the test obviously rests on the observer's immediate judgement of the simultaneity of two events in his own consciousness. Thus it is clear that we have a conception of simultaneity before we set up the criterion which according to Einstein first gives us that conception." Put briefly, Mr. Ross contends that the physicist's scheme is a test which could not even be formulated if the meaning of simultaneity were not already known. If we now ask Mr. Ross what that meaning is, we gather from the passage quoted the reply: "The observer's immediate judgement of the simultaneity of two events in his own consciousness." This is quite acceptable. But the events that Einstein's initial question is about are, as Mr. Ross tells us, "two events which are not directly observed," i.e., they are not events in consciousness—indeed they occur before the conscious events. The conclusion seems inevitable that, according to Mr. Ross, no two objective events can possibly be simultaneous because that term implies that events which have that property, or relation, are happenings in consciousness. If they are not, the term would have no meaning as applied to them.

To this we can imagine the physicist replying: "Well, anyhow, even accepting your definition, there is a property—let us call it X—of some objective events which seems to be related in some way to the simultaneity you define; if you and I are to be consistent neither of us should any longer call this property 'simultaneity,' but whatever we call it there is nothing circular in the reasoning which describes it, and thus defines it, in terms involving the simultaneity you have in mind." Such an answer to the charge of circular reasoning appears to me to be quite conclusive. When Mr. Ross calls the property X "simultaneity" without qualification he prepares the ground for an ambiguity to which he falls a victim in the following passage: "And, further, it is clear that we mean the same thing by 'simultaneous,' whether we are speak-

ing of events in our own consciousness or of events without it, though for the application of the word in the latter case we need a criterion which we did not need before applying it in the former." I can find no ground whatever for this statement except the ambiguity of a word. To guard against such an error in the present article I will call X "objective simultaneity." Again when Mr. Ross says: "What Einstein is looking for is a test of the simultaneity of two events not directly observed," he stultifies his own definition. For if the being of simultaneity is in being immediately known, why test for it? If in any occurrence, subjective or objective, it does not manifest *itself* that is an unimpeachable assurance that it is not there. The only "test" for it is its indubitable presence in consciousness; it is an ultimate datum.

But I would say further that the two sorts of events whose relations to simultaneity are involved in the discussion in Section VIII may both be envisaged as objective events without any loss of relevance to the question at issue. I have called events separated by a distance "spaced" events; I will call events which occur at the same place—implying nothing as to the *time* of their occurrence—"syntopic" events. A person experiencing anything of short duration, such as a flash of lightning, is always at one place, so that in consciousness simultaneity is always syntopic, and we are perhaps tempted to say that syntopic simultaneity is subjective simultaneity. This would be equivalent to saying that objective simultaneity cannot be syntopic; but there is a sense in which this would be untrue. In the physicist's arrangement, if the perceived flashes indicate to him that the rays of light have previously left two distant positions, they indicate with equal force that these two rays have now arrived at one position, *viz.*, his retina. Thus, if his thought of them is true, the arrivals are objective syntopic events. The far and the near events are equally objective, and if the flashes are simultaneous in consciousness we, in virtue of this, attribute to the arriving rays a property, or relation, which I have called objective simultaneity, and which, not being subjective, cannot have the ultimacy and indubitableness—and therefore cannot have the nature—of the original datum. Nevertheless we could only deny its existence on grounds (*e.g.*, solipsistic) which would require us to deny the existence of all objective events. This syntopic objective simultaneity is peculiar to syntopic objective events. If, related to this, there exists some property of spaced events, such property must be much further removed from the original datum; and Einstein's Section VIII may quite well be taken as a discussion of how,

by some artifice, this relation of an assumed property of spaced events to syntopic objective simultaneity, taken as a penultimate datum, may be exhibited, and the nature of the property thus disclosed.

A complete philosophical account of Sections VIII and IX would render explicit four implied meanings of simultaneity. First we have, *a*, subjective simultaneity as ultimate datum. Then there are three meanings of objective simultaneity; *b*, syntopic, referred to above as a penultimate datum; and *c*, spaced, which is of two sorts, *viz.*, *c*₁, where only observers not in relative motion would agree as to the simultaneity of two given events, and *c*₂, where not only these but also observers in relative uniform motion would agree.¹ That we are in possession of meanings *a* or *b*—whichever we choose—is implied as a premise in the physicist's definition; what is defined therein is *c*₁. In Section IX Einstein shows that the meaning *c*₂ is logically inconsistent with certain fundamental principles of science which, as he indicates elsewhere in his treatise, there is every reason to believe represent truly the character of nature: if this be so then no two events can ever be simultaneous in the sense of *c*₂.

Syntopic objective simultaneity can be put on record by the simple device of replacing the eye of the observer by a camera carrying a photographic film fixed on a revolving drum. The moving film is then a recording clock for the arrival of light rays. Two impressions on such a film would indicate non-simultaneity of arrival; one impression, of perhaps greater intensity, would mean simultaneity. If the camera were half way between A and M, then syntopic simultaneity disclosed by the film impression would be referred by the physicist to something in the happening of the spaced events which he and Mr. Ross would call "simultaneity," and we "spaced simultaneity." There is nothing circular about this definition.

Before the physicist's definition is accepted by Einstein, the latter raises the objection that its meaning depends on light taking the same time to travel from A to M as from B to M, and that this cannot be known to be the case unless we have the means of measuring time at different places, so that the reasoning is circular. To this the physicist replies: I maintain my previous definition nevertheless, because in reality it assumes absolutely nothing about light. There is only *one* demand to be made of the definition of simultaneity, namely, that in every real case it must supply us with an empirical decision as to whether or not the conception that

¹ This has already been referred to as "public" simultaneity.

has to be defined is fulfilled. That my definition satisfies this demand is indisputable. That light requires the same time to traverse the path A to M as for the path B to M is in reality neither *a supposition nor a hypothesis* about the physical nature of light, but a *stipulation* which I can make of my own free will in order to arrive at a definition of simultaneity." This passage evidently savours too much of mathematical method¹ for Mr. Ross's acceptance and he criticizes it as follows: "In other words, we have a word 'simultaneity,' but we attach initially no meaning to it." If spaced simultaneity is here referred to this statement is true in a certain sense. A truer statement would describe the mental position of the physicist as that of one who has just recognized for the first time that the word "simultaneity" cannot have the same meaning as applied to syntopic and to spaced events, and that though he only knows the former meaning he suspects that he has in the past meant *something* when he improperly applied the word to spaced events. The name is ready but the meaning has to be defined. To continue the quotation: "We get tired of making this meaningless noise, and decide to attach some meaning to it. . . . The important thing is to make some decision, not to make the right decision; as the word, so far, means nothing, there is no right or wrong about it." The author evidently intends this for a *reductio ad absurdum* of Einstein's logical method. But is it? Before one can attain to a right decision as to the meaning of a word whose application is doubtful, or as to the meaning of a puzzling physical observation, one must first have a decision of some sort. That is the important thing for the time being; the question of right or wrong comes afterwards. Surely the use of working hypotheses in science is understood and approved by this time. If not, Mr. Ross's extremely *a priori* alternative would be to refuse to allow you to form any hypothesis until you form the right one—a very desirable method, which would obviate all need for empirical verification, but unfortunately beyond our powers. Continuing, Mr. Ross says: "We assume that light takes the same time to travel equal distances, but this is not to make any statement about the physical naure of light, since 'same time' is equally meaningless with 'simultaneous.' It is of course obvious that so long as we do not want to make a right decision, but merely some decision, the assumption that light takes twice as long to travel a certain distance west as to travel an equal distance east, or that all telegraph boys move with equal speed would do as well."

¹ "Thus mathematics may be defined as the subject in which we never know what we are talking about, nor whether what we are saying is true."—Bertrand Russell.

Here we have the criticism which has been brought against the word "simultaneous" applied to the words "same time" (meaning here, of course, same "time-lapse"). But throughout this section Einstein is enquiring for meanings only. In effect he contends that the physicist's initial assertion that spaced simultaneity has a meaning must—as the physicist has described his idea—stand or fall by the possibility of giving such meanings to the words "time-lapse" and "distance" as shall make the assertion "during the same time-lapse light travels equal distances in all directions" descriptive of light's behaviour, however it behaves. The physicist's "stipulation" does not assume that behaviour known. It assumes that the above assertion is capable of bearing a true meaning *when* the facts of light-propagation become known. But at this stage of the enquiry it does not assert anything about light.

Alternative meanings have, as a matter of fact, been given to the words "time-lapse" and "space." Considering the assertion "light traverses equal spaces in equal times," if we envisage the light, moving in relation to space itself, or in relation to material bodies which we assume to be at rest in space, we are postulating an absolute space, and the concept of time we shall be constrained to adopt will be the corresponding Newtonian concept of absolute time. Understanding the above assertion in this way, we must agree that observers who are moving relatively to each other—and therefore in all cases, except possibly one, relatively to absolute space—will all get different values as the results of determining the velocity of the same ray of light relatively to themselves and their apparatus.¹ Still, these implied discrepancies—for they were never empirically verified—could be attributed to the absolute movements of the observers, while the velocity of light was thought of as "really" constant but nevertheless relative to the observer, in respect of his movement. The advent of the conception of ether lent body to this idea, and the hope of empirical demonstration; thus the velocity of light came to be thought of as constant in relation to the ether. This law of constancy—*i.e.*, that the velocity of light is constant in relation to absolute space, or to the ether, but inconstant in relation to the observer—I will call the law of relative constancy.

But there is another interpretation of the assertion "light traverses equal spaces in equal times"; for if by "space" we

¹ Mr. Ross is under the erroneous impression that this holds also in the theory of relativity. Cf. Symposium, top of p. 12. The velocity of light on that theory, however, is unaltered by the addition to it of any finite velocity.

mean the distance traversed as measured between two points on the earth or on some material instrument, we have eliminated all reference to either absolute space or ether, and thus the assertion means that observers, however they move (uniformly), will get the same value as the result of their measurements of the velocity of light relatively to themselves. In giving this second meaning to the above assertion we have obviously altered the meaning we attach to "space"; careful analysis shows that, to attain a theory of widest generality on the subject, we must attach an altered meaning to "time" also. This second law of constancy I will call the law of absolute constancy.

The word "constancy" in these two laws obviously has different meanings; but the two laws are apt to be confused and spoken of ambiguously as "the law of the constancy of the velocity of light." The pre-relativity physicist's habits was in assuming the constancy of the velocity of light, to reason always with the law of *relative* constancy at the back of his mind. It is important to note, however, that in the discussion in Section VIII Einstein has driven him, as the only way of giving a practically applicable definition of spaced simultaneity, to adopt the idea of absolute constancy for that particular purpose.¹ The inevitable result of confusing these two ideas is exhibited in Section IX.

We have now finished with Section VIII. In the following section the physicist, or Einstein speaking for him, applies the definition to determine spaced simultaneity in a particular case. A train is passing along the embankment, and "just when the flashes of lightning occur [at A and B] as judged from the embankment," there are points A and B on the train opposite these positions, and an observer with mirror arrangement at a point M_1 on the train opposite M on the embankment; so that M_1 is midway between the points A and B on the train, and the train observer has the means of judging the simultaneity or otherwise of the distant lightning strokes. If the observer on the bank judges the strokes to be simultaneous the argument of Section IX is that the one in the train will be nearer to B than to A before either ray reaches him; thus he will see the flashes successively and will judge the strokes to have been successive. It follows that simultaneity of spaced events is relative to the observer and that there is, on the premises assumed in the reasoning, no such thing as absolute time, *i.e.*, the same for all observers.

¹ Note that the space measurements are on a material body, *viz.*, the railway embankment.

Mr. Ross criticizes this under three heads. He says: "(i) The relativity, if relativity there be, is relativity to minds, not to bodies. Leave out the judgments formed by the two observers, and the bottom drops out of the argument. . . . The theory is at bottom a form of the old philosophic doctrine of the relativity of our judgments to, their dependence on, the peculiarities of our own minds. The novel element in Einstein's theory is that the peculiarity of each mind on which he makes its judgments depend is its situation at a body which is in motion relatively to the other bodies. The relativity is a relativity to bodies only as actual or possible situations of minds, or of the sense organs used by minds." I have really met this criticism already. We have only to substitute revolving photographic films for the retinæ of the two observers, and all conflict between different minds—some judging this way, some that—disappears. Each single mind, studying the impressions on the films, knowing the circumstances, and imbued with Newtonian concepts, is forced to make two conflicting judgments.

Mr. Ross's second contention is that: "The discrepancy between the two observers' judgments can be removed. The observers have only to allow for their relative motion; they will then make the same judgment." But, continuing, he admits that knowledge of such relative motion would be insufficient. To assume, as the physicist evidently does, that the embankment is "at rest," is to assume a knowledge we do not possess. "I think we must agree," he says, "that we do not know whether, or how fast, we are moving, and therefore do not know what allowance to make for such movement." Mr. Ross, then, is in agreement with the relativist so far. "But," he continues, "surely the reasonable attitude is not to say that we are theoretically right in making no allowance, that the conflicting judgments which will follow if we make no allowance are all of them right, and that therefore the same two events are and are not simultaneous."

The reply of the relativist to this, and of the physicist too if he is true to his own intellectual methods, and of the philosopher also, if we are to judge by Professor Broad's article, would be, "admittedly the phenomena of uniform motion afford no evidence of absolute space (or of ether); we can understand them all as well without it as with it—nay better, because it introduces unanswerable questions. It does nothing; it means nothing; we have no reason or right to harbour such a conception; let Occam's razor dispose of it."

Mr. Ross's third criticism is: "It is surely clear that Einstein's argument to show that the two observers will

make conflicting judgments rests on the assumption that the rays from A and B either start definitely at the same time or definitely at different times. In other words, it is on the basis of an unacknowledged belief in absolute time that his argument here is worked out, and apart from that belief nothing whatever could be asserted about the times at which the messages will reach M and M_1 ."

One could wish that Mr. Ross had been more explicit here. An event takes place at A and another at B. Before the light from these events reaches the observer at M he not only makes no assumption about them, but he is unaware that they exist. He sees the flashes simultaneously, and knowing that he is at mid-distance he calls the spaced events simultaneous. Thus is established, satisfactorily for this observer, the basis of a time system applicable to spaced events. Is this particular time system absolute, *i.e.*, will it prove equally satisfactory for all observers? The physicist's argument undoubtedly assumes that it *is* absolute. For in saying that "just when the flashes of lightning occur, as judged from the embankment," M_1 is opposite M the physicist is imposing on the observer in the train the time system of the other observer. The very question to be settled is whether M_1 is in one place when the flashes occur, or in one place when one flash occurs and in another when the other occurs. Thus the assumption of absolute time is certainly introduced, and the remainder of the reasoning rests on it. If this is Mr. Ross's meaning he is clearly right so far; but he is wrong in calling this Einstein's argument if he means that it would be tolerated for an instant in the theory of relativity. It is a typical pre-relativity argument assuming absolute space and time and the relative constancy of the velocity of light. Its result, *i.e.*, that M_1 is in two places when the strokes of lightning occur, contradicts, as Mr. Ross in effect points out, one of its own premises, and this is just the lesson of the example. Physics is convicted of incoherence out of its own mouth. Sections VIII, IX and X of Einstein's book are destructive; they clear the ground of prejudices inimical to the constructive work of Section XI wherein Einstein discards the notion of the relative constancy of the velocity of light—and hence, as it turns out in the sequel, of absolute time and absolute space—and substitutes the concept of absolute constancy. With the latter as a postulate, together with a universally accepted assumption, Einstein in Section XI, and more satisfactorily in Appendix I, sets out the equations which, with their manifold implications, constitute the special theory of relativity. Whether this body of doctrine is or is not borne out by the facts of nature, I do not here

enquire. Mr. Ross's reasoning was directed against the logical correctness of Einstein's arguments and definitions; it has therefore been my sole aim to set forth what I think Einstein means, and to show that this meaning is free from logical error. The history of the verification of the theory, by appeal to existing knowledge of nature and by observation of new facts predicted on the basis of the theory, is another and very attractive chapter of knowledge.

AN HYPOTHESIS CONCERNING THE RELATIONSHIP BETWEEN BODY AND MIND.

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Karshish, the picker-up of learning's crumbs,
The not-incurious in God's handiwork
(This man's flesh He hath admirably made,
Blown like a bubble, kneaded like a paste,
To coop up and keep down on earth a space,
That puff of vapour from His mouth, man's soul).

BROWNING.

PART I.

A former distinguished Professor of Physiology in the University of Melbourne once met the old question, "What is to be done when doctors differ?" with the witty suggestion, "Call in more doctors." The profession to which I have the honour to belong, has proved itself consistently loyal to that advice, and with like consistency I have permitted myself, where the doctors of philosophy have been differing down the centuries concerning the relationship of body and mind, to become one of the "more doctors" self-summoned to the consultation. To those two things, the starry heaven above, and the moral imperative within, which brought awe to the mind of Kant, I have often thought there might well be added a third: this fact of relationship between body and mind.

As a medical man, it is natural that I should approach the subject by affirming—for it seems to me to be a verified fact of experience—the dependence of mind on body. The evidence for such affirmation is to be found writ large in the sciences of biology, neurology and physiology, in the practice of medicine and in the facts of life. Biology reveals an ascending scale of consciousness related with an increase in size and complexity of brain structure. At the top of the scale is man with his huge convoluted cerebrum and its millions of nerve cells. It is possible, moreover, to establish some relationship between degrees of intelligence in different persons and the number of nerve cells present, particularly cells in the superficial layer of the cortex known as the supragranular layer. The findings of Shaw Bolton and the application by Professor Berry of these findings to the classification of abnormal and delinquent children, are significant facts. As is well known, it is possible also to establish relationship between injury to the brain, even to particular parts of the brain, and corresponding special alterations in the memory. Types of aphasia

suggest themselves as examples. The recent work of Henry Head has modified some of our ideas about localization of cerebral function, but the fact of relationship between localized brain areas and particular function remains as one of the important working principles in neurological practice.

There are other striking manifestations of change of mentality and of personality caused by injury of the brain. For instance, quite commonly the particular irritability of a patient is found to be associated with an inflammatory condition of the brain or its coverings. Another significant fact is that sometimes when organic disease of the brain has taken place, the first manifestation thereof is a slight psychic change in the individual. For instance, a child at school who before has been docile and amiable becomes intractable and naughty, and months after the cause may show itself as a tubercular meningitis. Another example of psychic abnormality associated with commencing organic disease is the subtle change that occurs in general paralysis of the insane. The incidence of that disease, in its early stages, falls on the highest nerve cells, and the first symptoms which develop are psychical. The account of the disease which Sir Frederick Mott gives in the Oxford Text Book of Medicine, is much more than an ordinary description of medical symptoms; it is a striking psychological study of a changed personality. Yet another familiar instance of changed mentality caused by bodily abnormality, is the disease called myxoedema, where, as the result of deficiency in thyroid function, there may come about a practical absence of mentality. One of the most striking advances in medicine was that marked by the treatment of these patients with animal thyroid gland and their restoration, in favourable cases, to bodily and mental health. In view of these and many similar facts one does not need to labour the point that mind is seen to be dependent on body.

But there is another set of facts which equally challenges recognition; it has proved itself no easy matter to give balanced recognition to the two sets of facts. Many persons when confronted in Nature by what looks like a contradiction, escape from their difficulty by refusing half the evidence. There is a story of a countryman at the zoo who saw for the first time an elephant. He looked first at its tail, next earnestly at its trunk; then, as he turned away, was heard to exclaim: "I don't believe it!" In a similar spirit of denial men have propounded theories which admit no place in Nature for mind as a real function. If our theories about the Universe are not wide enough to include mind as a functioning entity, the obvious thing to do is to change our theories. We cannot

fit the Universe on the Procrustean bed of our theories; ultimately, it is the theory that must be made to fit the facts.

It must be admitted that there is real difficulty for us whose training has been that of the medical schools, in harmonizing the ideas of free will and the psychic origin of disease with our belief in the law of the conservation of energy. It may be that, had our training in physics been more advanced or our knowledge of philosophy more profound, our difficulties might have been fewer. But our training is as it is, and the difficulties are real.

Hughlings Jackson, a great man, whose name will live in neurology, felt the difficulty so acutely that to him the suggestion of the psychic origin of certain types of epilepsy appeared worse than useless; the idea, to his mind, would bring chaos into that ordered system of physical cause and effect into which, not only the physics, but the physiology and the medicine of his day had been compassed.

In our day, the conclusions of the relativist mathematicians have profoundly modified the old simple faith in the law of the conservation of energy. One authority writing in the *Philosophical Magazine* has declared that the law has become to the relativists "a mathematical fiction." Nor do the philosophers exercise themselves much over the problem.¹ Indeed, to us medical men the philosophers seem to suffer from a provoking inability to understand that there is any real difficulty. They are content to tell us that the idea, accepted almost as an axiom by many physicians, of a physical closed system into which no psychic forces can enter, is a mere abstraction and an artificial postulate. The views of the relativists and the philosophers cannot be disregarded, but it is as a medical man on whom these difficulties have pressed that I come to the discussion.

For the sake of my argument I shall concede the theory that has been advanced by the mechanistic school concerning the passage of nervous impulses through the nervous system. I shall then endeavour to show that even with such a theory, it is still possible to admit the idea of real freedom and reject that of mechanically determined reaction.

Let it be assumed then that an afferent impulse enters the nervous system, that it passes to the cortex, that there it arrives at a point of dividing synaptic paths (the synapse being the place of apposition of processes of two nerve cells). There is evidence to suggest that consciousness is associated in a special way with the passage of nerve impulses across

¹ *Vide* McDougall's "Body and Mind" for a philosophic survey of the case.

synaptic junctions in the cortex of the cerebrum. The afferent impulse enters from the periphery, reaches the cortex, passes through synaptic junctions, and finally emerges as an efferent impulse manifesting itself in some form of action. In the simplest case, one might conceive a nerve cell in the cortex with a process receiving the incoming impulse and two processes, (*a*) and (*b*), along either of which the outgoing impulse might proceed. If the impulse proceeds by (*a*) there is, let us say, a positive response; if by (*b*) a negative response. The conception suggests a railway train with lines and points. If the points are on one setting, the train takes one course; if on the other, the alternative course.

If such be the physical basis, it has then been argued (1) that either the points are physiologically and physically set by heredity, environment, and a hundred causes, so that there can be no such thing as real freedom, and everything in the universe, the response of the "free will" individual included, is physically determined; or (2) that, if "free will" be seriously postulated as acting in such a system, then, by it, synaptic paths must be opened and shut; further, that this involves some physical force, however minute, to bring about movement of the points; and that this in turn is an infringement of the law of the conservation of energy; for that law lays down that the energy disappearing from one side of a physical system (in this case the afferent nerve process and nervous impulse) reappears in amount, neither more nor less, on the other side of the system (here the efferent).

Before advancing a solution for the dilemma thus presented, I define my position by saying that I reject a "vitalistic" explanation of physiological phenomena. So far as I understand it, vitalism says that physics are physics up to a certain point and that then, within the living organism, life comes in and alters physics so that physical reaction in the organism no longer conforms to ordinary physical laws. Of such anomalous action I cannot discern convincing evidence, although I admit it would be improper to deny the possibility on *a priori* grounds. It may readily be conceded that physical reactions are more elusively complicated than the old physical science at all conceived. For example, as already noted, the law of the conservation of energy may, as physics, be found to have less than universal validity; nevertheless, simple, or complex, physical reaction, *qua* physical reaction, whether in the living body or in the inorganic world, has not, in my opinion, been demonstrated to be other than uniform. I find myself in agreement in this contention with Professor Haldane. Dr. Haldane assails the mechanistic interpretation of physiology, but he is equally uncompromising

in his rejection of vitalism, and assures us that he is "neither neo-vitalist nor paleo-vitalist." I (with, I think, Dr. Haldane) would suppose that, in the cell, physics and chemistry remain physics and chemistry; with him, it would seem to me there must be recognized in the functioning cell a new category of existence, the category of life. Dr. Haldane has well said that the progress of physiological investigation during a generation has taught us much of how finely the chemistry of the body is balanced; it has taught us nothing of how it is finely balanced. Or, as I have heard it put, physical experiment does not answer the question: What balances the balance?

With this explanation of my position, I return to the dilemma that has been presented. The analogy of the railway points may be substantially true. I advance the suggestion that the function of living cortical brain cell may be to hold an absolute and theoretically perfect balance of the "points" in the way out for a nerve impulse between the two diverging paths. By the hypothesis there is, and can be, no physical bias to determine. The dilemma as between determinism and a breach of the law of conservation has disappeared, for in such a system as I have postulated non-physical influence alone is competent to give right of way to nerve impulse along the appropriate path. Thought, "free will," emerges as the new creative reality determining the issue.

The question may be asked: What evidence is there that "free will" does, in fact, act in the way postulated? I reply that I am not concerned to prove that "free will" does act in the special fashion, or only in the fashion, which I have suggested. I am concerned to demonstrate that the conception of "free will" is not logically and inherently incompatible with the facts of physics and physiology; I believe that my suggestion justifies my contention.

So far, my argument has sought to show (for many minds, I know, it is but labouring the obvious) that the facts do not make inevitable a materialistic conclusion. Further, such a conclusion is actually untenable, as the following considerations suggest. If matter always acts on mind (as the materialists affirm) and never mind on matter, we have, as the late Professor Laurie reminds us, the sort of reciprocity unknown in Nature of which the Irishman complained that "it was all on one side."

Consciousness has been called an epiphenomenon, a sort of shadow. But in fact mind does act on matter and it is a strange shadow which influences the substances which it

shadows. I have seen patients sick in body, paralysed and helpless; my epiphenomenal shadow has affected their epiphenomenal shadow and the patient has got up, walked about, recovered and put on flesh. I cannot believe, after such experience, that mind does not genuinely act on matter. It is a significant fact, and seriously invalidates the materialistic theory, that theory and practice do not agree. It is probably not too much to say that there never was a consistent materialist, surely none among the practising nerve specialists.

Nevertheless, an escape from a materialistic interpretation has presented difficulties. For evidence may be adduced that mental activity does not occur with the absence of nerve cell and the stimulation of such cell by peripheral stimulus. "No neuron, no mind," is a familiar dictum; one might go further and say: no peripheral stimulus, no mental activity. An infant deprived of peripheral stimulation (sight, hearing, etc.) grows up an "ament by deprivation." There is the classical instance of a patient deaf and without cutaneous sensibility and with sight in only one eye; when this closed, the patient went to sleep. These facts have been interpreted to prove that in the final analysis, mentality is a type of physical energy appearing as a result of physical stimulus. But is it? I answer in a fairy tale. If the fairy tale does not end quite rightly, I crave indulgence in this my first incursion into imaginative literature. Once upon a time there was a fairy prince, charming and with all the other attributes one could wish for in a fairy prince. However, he was eccentric in his diet. From the day he had been weaned of mother's milk, our prince could be induced to touch but one article of diet—birds, always and only birds. Now, there was in the neighbouring kingdom a beautiful princess. She was not only beautiful but cultured as well. She had, indeed, graduated from the local university and had specialized in pneumatics. She knew all there was to know about air. They met and eventually they were married; but they did not live happy ever after. The truth must be told. The princess, for all her loveliness, was the victim of a peculiar form of selective amblyopia, and the one thing she could not see was—birds. She became mystified about what the prince ate. Nothing that she ordered from the royal kitchens was ever touched. She was wounded and chagrined. But her scientific bent of mind asserted itself. She watched the prince as he sallied forth with his gun: he was going to shoot birds. She soon established the fact that his diet was connected with air. There were obvious difficulties; for sometimes (if he happened on a neighbour's aviary) there was much sustenance and a minimum of air, at other times all the atmosphere in the wide dome

of heaven—on days when birds were few—scarce appeased her lord's hunger. Still, one thing was certain: No air, no food. Though she could not reduce it to a mathematical formula by which air and nourishment were seen to be related one as a function of the other, still our amblyopic princess was finally driven to the conclusion that her avivorous prince lived on air. I have only to add that with the best intentions in the world she had a forced draught installed to play on the prince's place at table. Unhappily the unfortunate man caught a cold, developed broncho-pneumonia, and died. Now in point of fact, this untimely tragedy was due to a mistaken judgment, for the prince did *not* live on air, though he did live on something in the air, but quite different from air, to wit, birds. And the moral of all this is that mentality does not depend on nerve impulse and physical stimulus as such. It depends on something in this universe of matter and motion, but quite different from matter and motion, to wit, meaning. And the amblyopic materialist cannot see meaning.

Or let me put it another way. There was once a mathematical class, and it met under some very serious disabilities. The lecture room was so cold that the students were frozen to distraction; they were half starved, too; and the lecturer had so poor a voice that what he said could not be heard. The class made poor progress in mathematics. But a happy improvement was effected; the room was warmed; the students' diet was brought up to standard; and the lecturer was induced to speak up. A gratifying advance became apparent in the class's mathematical attainment. At this stage a new director of studies appeared on the scene. I think he must have come direct from Gulliver's island of Laputa. He was ambitious for the best examination results. He enquired into the circumstances that had led up to the recent improvement in the students' results. He decided to spare no expense. He had fires built in the lecture room big enough to roast an ox, or an ass. He arranged for the forced feeding of the students and had electric amplifiers installed which worked so effectively that the students were deafened with the roar of the lecturer's voice; but it did not help the mathematics one bit. And the reason that it did not help is this, that the only road to mathematical attainment is the road of perception of mathematical meaning through directing the attention to mathematical ideas, and not all the typhoons in the China Sea are sufficient to provide peripheral stimulus enough to make one jot or tittle of mathematics in a man's mind. The fact is that the physical organ (the brain) and the physical stimulus (nerve impulse) are important, indeed essential, to provide the material basis for mental activity;

they are of great negative importance also in that injury or deterioration of the brain destroys or distorts mentality. The converse, that the brain may be stimulated by peripheral stimulus to produce ideas is, in spite of all the scientific erudition which has been marshalled to support the view, nonsense; and all the schools and all the universities in the world, by their very existence, proclaim the fact that ideas are formed and thought induced by something other than matter in motion.

One final word about the materialistic theory of mental activity. It has been said that the brain secretes thought as the liver secretes bile. I do not take exception to this analogy on the usual ground taken by the idealist in considering the question, namely that the analogy is too mechanical and that there is this important difference between thought and bile, that thought though it may be ponderous, is never ponderable. My criticism is, that the analogy is not mechanical enough. It purports to throw light on an obscure problem by introducing an unconvincing comparison with another little understood and obscure activity, the secretion of bile by the living hepatic cell; for that process is not to be dismissed as a merely mechanical one; the one thing we certainly do know about it is, that it is a function of living cell.

I have dealt thus at some length with the materialistic theory because it was at the price of much thought that I obtained my freedom from its fallacies. The other principal theories concerning the relation of body and mind, which have been advanced, I shall but mention. Parallelism says that mind and matter move on by some pre-arranged harmony, but neither ever has any effect on the other. I know a small child who has not yet learned to express the relation of difference between two objects. She puts it in this way: The two things are "just the same, but not quite." The theory of parallelism reminds me of that.

Thorough-going subjective idealism makes us responsible for the material universe. Joseph got into trouble merely for dreaming that the sun and moon and stars bowed down on him. This theory makes us each responsible for having "put up the whole show."

Bergson deals with matter and spirit each as realities. He holds, if I understand him, that the brain does not function as the organ of ideas, but as the instrument of the body's action and reaction to the total environment.

Finally, there is the interactionist theory, to which, in recent years, McDougall has given able advocacy. To me,

some form of dualism seems inevitable; at the same time, simply to accept the two facts, matter and mind, to admit that they interact and yet to conceive of them as, in their nature, totally diverse one from the other, is unsatisfactory and unsatisfying. The contribution to thought which the situation calls for is the revealing of some quality or essence in mind and matter which is common to both and which so makes interaction of one on the other a thing intelligible and congruous. To the elucidation of this problem, then, I address myself.

Concerning the nature of mind I do not propose to say more than this: we know from immediate experience that when mind or spirit is most truly free it is expressing itself in accordance with laws of rationality and creative activity. The nature of matter demands closer examination. To different minds it presents itself in different aspects. To the happy child the world may appear as fit setting for the best of fairy tales. For the pessimism of Bertrand Russell "blind to good and evil, reckless of destruction, omnipotent matter rolls on its relentless way." To the mind without scientific bent or training, the world is a strange conglomeration of unrelated things and happenings. Nor is this pre-scientific mind a thing of other climes and days. On a farm where I spent a boyhood holiday was a buggy-house built on an incline sloping down from the entrance. Naturally, if the buggy wheels were not properly chocked, there was trouble with the buggy. I remember once drawing the attention of the farmer's wife to the moving vehicle as it commenced to take the decline. Her comment was: "That's the way with that buggy; it won't stay in the shed." Truly pre-scientific!

To the scientific mind, nature presents a very different aspect; and the progress of science discloses the relating of the world of nature to the world of reason, and increasingly reveals that things which to the untutored eye appear as accidental and unrelated are in reality part of a rational order. A Newton appears, and literally in his mental grasp he takes the astronomical universe and finds it docile, a universe which moves according to laws, the laws of reason. What Newton did in astronomy is being done in all branches of science. It has been done conspicuously in modern physics in the ultra-atomic world. The physicists declare that, in its ultra-atomic essence, matter is electrical, made up of electrons. And what is electricity? In answer to that question Bertrand Russell replies: "Electricity is a way in which things behave, it is not like red paint, a substance which can be put on the electron." In another place the same author says

that the electron is "a logical fiction." If we may take that word fiction, not in its present degraded usage, but with its original meaning of "something fashioned," we arrive at conclusions of arresting scientific and philosophic implication.

The next step in my argument has been made possible by the work of a thinker whose conclusions have greatly influenced my own mind. To adapt words used by Matthew Arnold in reference to his father; a brother of Bruce McLaren¹ may say of him what any man might say, that he was gifted with singular mathematical and physical insight. His work was mathematics, his meat and drink was to attain to a philosophical understanding of reality; and mathematical physics was his instrument to this end. He travelled, with its pioneers, the road which the relativist mathematicians have opened. Niels Bohr visited him that they might discuss the problems which the new conceptions of the electron were raising. Through all this work the question that enthralled his interest was: What in its ultimate constitution and essence is this thing of electrons and protons men call matter? He embodied his answer to that question (see "A Theory of Gravity," *Phil. Mag.*, 1913) in this sentence: "To me, as to Hegel, matter is objectified thought." The idea of thought that has taken form may seem to some meaningless; to me, the more I probe it, the more, the deeper, its significance. Nor should the idea present special difficulty to our mechanical age. Henry Ford had a thought thirty years ago; that single thought has taken some fifteen million forms and in the words of the Ford advertisements: "Wherever you go, you see them, and wherever you see them, they go." Electrons are a good deal like that, but there are more of them and they go faster.

This idea of thought that has taken form, comes to us not only as an attainment of modern mathematical philosophic thought; it comes also fraught with the wisdom of the ancients; for both Hebrew and Hellenic thought bear witness to the same truth. In a recent number of the *Quarterly Journal* an authority on Greek literature, Miss Stawell, has written:

Nothing is more characteristic of Greek speculation than the belief that underlying Nature there existed intelligible Ideas, Forms transparent to thought, which pressed for embodiment in actuality, through which alone we could understand the world and which had a right to be called divine.

The testimony of Hebrew thought is even more explicit. The idea is present at the beginning of that literature and

¹ Professor S. B. McLaren was killed in France in 1916.

informs all its pages. One might paraphrase the first chapter of Genesis and say: "God said, let there be an ordered cosmos; and there was an ordered cosmos."

This idea of matter as thought that has taken form, applicable to inorganic matter, becomes pregnant with new meaning when carried into the world of life. The term biology connotes, of course, that exact and ordered description which men of science have given about living forms. But the question suggests itself: What makes it possible that there should be an "ology" about life or about any of the thousand and one other subjects of which there have been scientific treatises? Bertrand Russell says that the universe is a huge chaotic accident and that out of this abysmal irrationality there has emerged by "a collocation of atoms" that fleck of transient rationality, man's mind, which weaves for itself the order of the sciences. None can deny Mr. Russell's intellectual gifts. One can only marvel that the human mind can so stultify itself and so distort the image of the cosmos as to believe that the only reason in the universe is the reason which man had made by a figment out of that in which no reason is.

To the simple mind the simple suggestion comes that all the "ologies" are made possible because Nature herself, before all description, is instinct with reason, or as the Greeks called it, *logos*. Biology is a possibility and has become an actuality as a science because the *logos* is, and is in life. To my mind, an interpretation of biology emerges only as we discern in the evolutionary process the *logos* manifesting itself in and through that process. This idea has but to be stated, and the mind leaps to the profound prologue to St. John's Gospel: "The Word [*Logos*] became flesh and dwelt among us."

(*To be Continued*).

STUDIES IN CHRISTIAN ORIGINS.

III.—VERSIONS OF THE LOGOS DOCTRINE IN THE FIRST AND SECOND CENTURY PHILOSOPHERS.

By REV. V. A. SPENCE LITTLE, M.A. (Syd.), B.Litt. (Oxon.).

THE problem of the relation between God and the world is one of the most difficult the human mind ever attempted to solve. The most important proposal for its solution is generally known as the Logos Doctrine, though better designated to my mind the Doctrine of Divine Intermediation. For the first three centuries of our era, this question occupies foremost place in importance and interest in religious philosophy, a number of hypotheses being advanced by leading thinkers of various shades of opinion with a view to its elucidation. But down to the first Christian century, save for one or two tentative suggestions, the problem had remained in suspense. However, the two classes of materials destined to be utilized in its solution, which had been gathered gradually through preceding ages, had now been brought to their highest stage of individual development. It then became the task of religious philosophers in the early Christian centuries to endeavour to overcome the difficulties of this problem by viewing existing, but mutually exclusive, theories from a new standpoint, and, by effecting a kind of fusion of certain elements from each side, to construct a new system in which God is seen to be rationally related to the world.

The earliest results of this enterprise appear in certain writers of the first two centuries, who represent Hellenic thought on the one hand and Alexandrian on the other. The movement gains ground considerably as the second century draws out. For, besides genuine philosophical writers, a vigorous school of Gnostic speculation had arisen, in which mediatorial theories assume both complexity and variety, sometimes exhibiting great constructive ability. The problem for philosophy resolved itself into the task of finding a rational nexus between the scholastic dogmas of divine Transcendence and divine Immanence. Without pausing to touch upon these two interesting aspects of Deity at this juncture, we shall briefly pass in review versions of the Logos Doctrine found in a number of writers in these early centuries and thereby exhibit the development of certain philosophical and religious conceptions which came to exercise so great influence upon Christian thought and religious life for ages.

First to come under our notice is the interesting but anonymous writing "De Mundo" ($\pi\epsilon\rho\iota\kappa\kappa\sigma\mu\nu$). Herein, God is represented as the Creator and Governor of the universe. But though "He has obtained the first and highest place, and is therefore called the Supreme," He is also the Immanent God in a certain sense. This antinomous aspect of the Deity is made feasible by the assumption of an ordered series of divinities all apparently serving, and transmitting authority from, the Supreme, and relating Him to the world—"the (celestial) body closest to Him most enjoys His potency and thence the next nearest, and likewise successively down to our own (mundane) regions." To elucidate the above, the author draws an illustration from the example of the great King (Darius) who dwelt at Susa in exalted and segregated splendour, yet always maintaining continuous touch with his whole Empire by means of his personal servants within the palace (a bodyguard of "listeners"), and as regards the external administration of his dominions, by his provincial officers. "If it was undignified," continues the author, "for the King personally to administer details of government, much more would it be for God. It is more dignified and suitable for Him (God) to be enthroned in the highest place, and that His potency should extend through the whole universe and be the cause of safety thereto." The intention of the writer, evidently, is to show how the transcendent God, *e.g.*, of Aristotle, could be conceived as in relation with the world by an ordered succession of inferior divinities, and thus by his activities, through their mediation, could prove himself the Immanent God as well. This somewhat pictorial account of divine Intermediation has its philosophical basis in the Stoic Logos (Supreme God), the significance of which was altered on being taken over by later Platonists and Peripatetics. By these scholastics, Logos was separated from the notion of Supreme Deity and represented as a Secondary Divine Being, who stood for the Transcendent Deity in his cosmic activities. This remarkable doctrine was destined to have a great history in subsequent religious philosophy and theology for centuries.

Of second century writers, we first notice Moderatus of Gaza, an adherent of the revived Pythagoreanism. Simplicius, in his "Physics," has recorded a few passages extracted from the writings of Moderatus, showing his views. Moderatus writes: "The First Unity ($\pi\rho\omega\tau\circ\delta\upsilon$) is superior to being and all essence; but the Second Unity, that essential and intelligent being, is the Forms (Ideas), and the Third, the psychic, participates in both the First and the Forms." This rather enigmatic fragment of scholasticism presents a Triad of entities. The First Unity (like the Platonic Idea of Ideas),

being superior to true Being, and Essence, stands for the Transcendent God. The Second Unity, True Being, or the Idea, the highest rational unity, is the primal derivation from God, and was regarded in current theory, the archetype of the universe. The Third Unity, the psychic, is the case where divine energy, proceeding from super-essential Deity, comes in contact with primordial matter, and becomes Soul, a combination of essence and matter. The purpose of Moderatus would seem to be to indicate a possible mode of relationship between the highest Divinity and the material world, by means of inferior divine beings or Intermediaries, which are in essential or rational connexion with the primary Monad or Supreme Deity.

In Alcinous we have another variation of the same notions. Though Plato does not relate the Ideas directly to the Deity, he seems to have regarded them as "types" of divine thought or energy, for in the "*Timaeus*" they are the "models" according to which the Demiurge or Creator fabricated the universe. Aristotle, criticising Plato's theory, showed that the Platonic Ideas could not be "objects" or "types" of divine thought without their being necessarily "thoughts." Alcinous, perhaps taking suggestion from Aristotle's remarks, conceived the Ideas to be the very activities of the mind of the Deity, that is, his "thoughts." They were to be considered, therefore, as subjective to the divine Mind. This innovation he expressly states thus: "The Idea in reference to God, is a mental operation (*vόησις*) by him, but in itself is essence." He then proceeds to state that the First God is the eternal Mind, "thinking upon all things once and always." "This, its mental activity," he adds, "is Idea." Here one cannot but notice that the "thoughts" of God come near being hypostatized and given their own individual existence. The Platonic Ideas were ever active and in constant relation with mundane objects. In identifying the Ideas with the "thoughts" of the Divine Mind, Alcinous shows the Deity to be in continuous relation with the generated universe through the mediatorial office of the Ideas. But, further, Alcinous tells us that the First God, the Divine Mind, whose activity is thought, communicated his thought to the material universe through the Cosmic Mind or Soul of the World.

We have then a Triad of Divinities, *viz.*: (1) The Soul of the World, "mind in potentiality," ever in contact with matter, but inferior to Idea; (2) the Idea or Thought of God, that is, the divine Thought in activity, God's mental operations, and therefore subordinate to, but next in order of, dignity to him; (3) the First Mind (God), which is the originator of the former two and primal Cause of all.

Mystifying somewhat as may seem these dry bones of philosophy (which to save space have been cited briefly), they have as a background and justification deep religious longings of the human soul. For these early centuries of our age were characterized in the society of the Græco-Roman world by an intense religious experience. Rarely in any ancient society did there exist a more widespread and earnest searching after the Living God, if haply they might find Him. But people of the Græco-Roman world were children of their age, trained in pagan religion to which they naturally looked for spiritual guidance. Consequently, every avenue of approach to the Divine known to paganism was earnestly explored, and all worshipful acts sedulously practised. As would be expected, request was made also to religious philosophy and its savants, for help. Could the learned lecturer of the Academy, the philosophical director of the soul, tell, aye more, could he demonstrate, that there existed a necessary relationship between God and this world of forlorn and suffering humanity? True, the populace for centuries had known of the dæmons who ministered between men and God. But could reason show any better way? Religious thinkers declared it could; and after meditation, showed that the imaginary dæmons were but the outward popular version of those philosophical entities mentioned in the writers quoted above, and in others to be referred to later. These philosophical statements expressed more systematically what all religious worshippers felt and experienced, namely, the necessity of a true rational relationship between God and the world, for which the human soul out of its deepest nature yearned.

LAW AND CHANCE.

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THE following thesis will appear raw and crude, but I venture to submit it, hoping that abler minds will justify it or explain its inadequacy.

In a criticism of Braitewaite's "The State of Religious Belief," H. G. Wood says:

Whether or no religious belief be actually on the decline among the educated classes in England, it is certain that a large proportion, perhaps one-half, of the members of these classes would hesitate to commit themselves to a positive confession of faith.

Now Mr. Wood is perfectly right about this. Most of us have lost our religious bearings. We cling in a sort of instinctive way to the religious attitude, but the development of modern science has raised such doubts that we decline to take anything blindly. We want more or less justification for our faith. The theological attitude is giving way to the philosophical, and the need for a comprehensive philosophical theory is becoming greater than ever. None of the sciences has succeeded in solving the riddle of existence: cannot philosophy, with the aid of all the sciences, introduce a little order into the chaos that results when we attempt to go beyond the fundamental physical laws? Personally, I think she can; but the explanation, as I see it at present, is more scientific and less metaphysical than many perhaps will admit. The approach, at least, I make from the scientific side.

Science is concerned with laws. Scientific progress consists in finding more and still more fundamental laws. Now, it seems to me that the logical outcome of such a process will be the explaining away of law altogether. Of course, that will seem absurd to you, but allow me time to explain fully. You will see that I do not postulate an entire absence of uniformity in nature. Would it be possible to formulate one law which would contain all other laws? The scientist seems to think so, and aims to find that law. I submit, however, that, although such a law would be one *in harmony* with all the lesser laws that we know, yet these lesser laws could not be deduced from the primary law. I would suggest that we could have other secondary laws which would still not contravene the primary law: that the secondary laws being as we know them now are largely a matter of chance. Let me illustrate from the realm of physics. Suppose we take the law of gravitation as a more primary form of law, and the fact that all things tend to fall to the earth as a secondary law following from it. Now, I ask you to conceive a universe where the planets and other heavenly bodies, instead of being at their present distance, are within a few yards of each other (the law of gravitation does not preclude such a state of affairs any more than it necessitates all the heavenly bodies forming one dense mass). Under such conditions I have only to throw a thing into the air and it does not return at all. I have only to take a good jump, and I will find my conception of up and down completely changed. The law of falling bodies is only a chance incidence of the more primal law of gravitation which, in turn, will be some chance exemplification of some still more primal law.

Take an illustration from another science. The fact that our world consists largely of oxygen is not part of the nature of things.

It is just by chance that such a particular arrangement of electrons should predominate. Under the same fundamental laws quite a different element might have taken the place of oxygen—one totally novel as far as we are concerned. And so the thing goes on: chance everywhere, as I see it.

It may appear that I am involving myself in a huge and self-evident contradiction, but the belief that a conception of the universe, as in all its parts the outcome of chance, can be reconciled with a reign of "law" in all its parts, is at the very basis of my thesis. Even chance must obey rules! What a paradox! On the face of it, it seems absurd to attempt to explain the universe on the theory of chance working according to any fixed law. That, however, is, I think, merely a fault of our limited language. Perhaps, if I could use other terms more severely limited in meaning, I could make things more clear. As it is, however, "law" and "chance" are the only terms at my command, and I must ask you to judge of their meaning in the light of the paper as a whole. After this warning I will state my fundamental law of chance: *anything may become anything consistent with itself.*

Suppose that I am going to build. There is no reason why I should choose one material rather than another, but once having chosen the material the subsequent course of the building must go along certain prescribed lines. Suppose I wish to gamble. Whether I choose cards or dice will be largely a matter of chance, but, once having chosen dice, it is certain that what will be turned up will be a six, or four, or some other number, and not an ace, or a knave. It is thus I conceive the universe to be governed by chance. It is chance until the choice is made, but afterwards chance is limited to a more minor field. This does not mean that as time goes on chance will have less and less a place in the ordering of things, at least not necessarily. It is quite possible to start again and go in another direction. I do not think, though, that we need fear such an abrupt rebeginning. A thing, once moving, will tend to go on of its own inertia, and I think that, our universe having come into being, it will continue until it ends of its own accord, as we expect our own particular part of it to do with the gradual cooling of our sun.

Such a theory of existence requires no God, no anything except consistency with itself on the part of the developing universe, or whatever it happens to be. It is at this stage that we come up against metaphysical conceptions. Are space and time not ultimate realities? I am inclined to say that they are not. It is hard to imagine a state of things not governed by such ultimate factors. *But we can envisage oblivion.* Whenever we contemplate death we contemplate a state of affairs when, for us at least, time and space may cease to exist. Now, if there can be oblivion for the individual, why can there not be oblivion in totality? I cannot find any reason. Still, I do not say that the death of all conscious beings would bring such a state of things about. That is a moot question. But I do say that a space-time world chanced into being from oblivion. Why should it? Why not? Have I not been endeavouring throughout this paper to show the fundamental part played by chance in evolution? The physicists have imposed their rigid law of cause and effect upon us too long. We have already revolted against it in the matter of volition and free-will. The time has come for open rebellion.

I know some will object to my giving a beginning to time. Again words are to blame for misconception. Such a beginning cannot be a beginning in the time sense, for time could not exist before itself! We cannot date the beginning of time *in time*. It is not a case of one being able to say: "Today is the first day: there was no yesterday."

As soon as time exists it is infinite time, just as space is infinite space as soon as it exists. In conceiving of space as first coming into being, one does not think of it as appearing in the distance and gradually approaching! Neither would time appear *in* time. The conception is really of quite a different nature. Our limited experience forces us to speak (and think) of it by analogy, thus introducing confusion.

Well now, our bi- (tri- or X-) dimensional state of things having come into being, development goes on towards ever more and more complexity. We catch a glimpse of the process in the development of the atom from electrons and the development of the chemical compounds from the elements. Here we find chance still at work. Chance brings the electron into being; chance, more limited by antecedent development, decides upon the atom, and still more circumscribed chance determines the compounds. Further back, electricity, heat, etc., have already branched off.

Our next great difficulty comes with the advent of life. The explanation of the origin of life has always been a difficulty for scientist and philosopher alike. Can we satisfactorily account for it by this theory? If not, the theory breaks down.

At an earlier stage I referred to inertia. It is in this that I see the essence of life. The chief thing I see in living organisms is their tendency to preserve their independence. They tend to fly from danger and to be attracted by agreeable conditions. The question is: Why do they do this while inanimate objects do not? It appears to me that life is a new line of development within the system which has progressed as far as the inanimate. There is no reason why life should begin; but likewise there is, so far as I can see, no reason why it should not, since it is obeying all the laws of its anterior development. Therefore, it seems to me that the union of certain elements or compounds to form life is no more to be marvelled at than the formation of compounds and elements themselves. This new production is necessarily more complex than its precedents. It happens to unite in itself material and power. The result is that in its struggle to exist (inertia) it is wonderfully helped. A still further development of multicellular from unicellular life greatly increases this power. Evolution, which depends upon chance, finally evolves consciousness, and man.

Man emerges into consciousness but slowly, and at first there is much that he cannot understand. All this he attributes to superior beings. He postulates a god of thunder, a sun god, etc. Finally he manages to explain these separate phenomena as but instances of something else. His separate gods thus disappear. He finds greater difficulty, however, in the more ultimate explanations, so he keeps one God to solve his difficulties here. In modern times men are doubtful of even this one God, it seems. I anticipate His being thrown over, too, before long.

All this seems to be hard materialism. I would demur at the charge of materialism, and I would certainly deny it is hard. I consider that such an outlook leaves wonderful possibilities for man. The very fact that chance is so fundamental leaves limitless possibilities for him. The inertia, which alone makes the world persist, reaches in him its highest point, so high that I can see no reason why we should not ultimately attain "Eternal Life," even in the individual sense. In the "World Republic," "The Great Society," I see an even higher type of being (not necessarily conscious as a "superman") and I anticipate that the race of man will not die out with the decay of our solar system. To you who can still believe in a God this will be no consolation, but, for those who have lost such a belief, the whole of this theory should prove acceptable as introducing some scheme into the universe and showing some hope for the future.

RESEARCHES AND REPORTS.

THE MEASUREMENT OF PERSISTENCY: A PRELIMINARY SURVEY.¹

By E. RONALD WALKER, B.A.

(*Substance of a paper read before the Sydney Local Branch of the Association.*)

WHILE the measurement of general intelligence has reached a considerable stage of perfection, our knowledge of temperamental traits is still very elementary. For purposes of vocational selection and guidance, educational diagnosis, treatment of delinquency and other social applications of clinical psychology there is urgent need for objective measures of individual differences in temperament. Even a cursory survey of the literature of the subject will convince one of the complete absence of satisfactory tests. Many investigators, however, have suggested tests which form valuable pioneering work, even if they could not be used in clinical examination. The association test, introduced by Jung, and developed by Kent and Rosanoff, and Woodworth and Wells, has been taken to indicate emotional stability and even aggressiveness. A special adaptation of the test finds a place in Moore's team of tests which, he claims, measure aggressiveness as accurately as the Army Alpha Tests measure intelligence, a claim which is not supported by published evidence. The psycho-galvanic experiment has been developed in an attempt to measure emotions and complexes. Names associated with this apparatus include those of Jung, Prideaux, R. C. Moore, Burt and Whately-Smith, while Dr. Martin has used it at the Sydney laboratory. While individual differences are discernible, accurate measurement has not been accomplished. The Pressey Cross Out Tests, the Psycho-Neurotic Inventory of Woodworth, Binet's work upon suggestibility, and Voelker's on moral qualities are all commendable for breaking new ground. Downey's Will Profile is well known and has been used in the selection of salesmen, but the tests are open to trenchant criticism. Crane's investigation of race differences involved measurement of the respective capacity of whites and blacks to inhibit fear and curiosity, but his apparatus would be ridiculous in clinical work. Fernald measured persistency by the length of time his subjects could remain standing on their toes, with heels raised, while Woodrow has used the ergograph for a similar purpose. More subjective methods include the observation of behaviour as in the performance of some difficult test, e.g., star tracing, or the Porteus maze tests.

In none of the above instances, however, have we a satisfactory measure of temperamental traits, there being two requisites which this pioneering work lacks. The first is definite evidence that the test does measure the trait in question, and the second is reliability, or self consistency. Burt investigated many of these tests and found that their reliability ranges from 0.40 to 0.75 (Coeff. of Correlation). The correlation of the tests with independent estimates ranges from

¹ Thanks are due to Dr. Martin who suggested the problem, and whose criticism and assistance have been invaluable. The work would have been impossible without the willing help of the Principal and Students of Leigh Theological College, Enfield, where the tests were carried out.

0·35 to 0·65. Burt therefore prefers to use testimonials and the interview in estimating character traits. While there is work to be done in making the interview more objective in its results and in developing forms of testimonials which give a clearer quantitative judgment, such as the graphic rating scale, tests, if reliable and accurate, are preferable to these other methods.

This article outlines an attempt to arrive at a series of tests to measure individual differences in a single temperamental trait, namely, *persistency*. It appears that the scale of temperamental traits must be approached gradually, one trait or group of traits at a time. To obtain a series of tests, two distinct steps of procedure are essential: (a) the devising of tests, and (b) the investigation of the accuracy of the tests as measures of the trait in question.

The first step consists in endeavouring to abstract the essential features of situations and operations which demand persistency, and the construction of analogous or typical situations and problems which may be standardised into test form. Eleven tests were obtained. Some of these were specially devised for the purpose; others were specially adapted from tests already known; others again were included which did not on the surface bear a close relation to persistency, but which might conceivably involve the trait. This latter "random" selection, as some writers call it, has been condemned by some investigators, but it is as well, in undertaking such an investigation, to use all available possibilities. As it happened, the most satisfactory tests were some of those specially arranged. Since most of the tests were discarded as of little value in measuring persistency, I shall merely name the tests used, as this stage, and describe the more important ones in detail at the end of the paper.

1. Free Chain Association (number of discrete groups).
2. Tenacity of Grip (spring dynamometer).
3. Downey Self-consciousness Test.
4. Downey Handwriting Tests (normal, speeded and retarded).
5. Tapping Test (comparisons of fatigue effect and end spurt).
6. Jig Saw Puzzle Test (described below).
7. Distraction from Cancellation (described below).
8. Ideal Qualities.
9. Star Tracing.
10. Reversal of Choice (described below; based on Dr. Martin's monograph on volitional choice).
11. Distraction in Substitution (adapted from the Woodworth-Well's Substitution Test).

To estimate the accuracy with which the tests measure persistency, if at all, we must administer the tests to a group of subjects, and compare the results with some independent criterion of persistency. Viteles has recently emphasized the importance of securing a satisfactory independent criterion in all test formulation, and this is often a barrier in the way of experimental work. Obviously, in the absence of a reliable criterion, we cannot know whether the tests do measure the trait in question or not. We might take examination results as an indication of persistency, but obviously other factors enter in, such as intelligence, which are quite distinct from persistency. The only practicable method for the trait of persistency is to get judges to "rank" the group of subjects according to the judges' estimates of their persistency, and to compare the ranking given by the tests with this. If a high degree of correlation be found, the tests would be considered satisfactory to that degree. The crux of the matter lies here. Is the ranking of the judges to be considered an objective criterion? Subjective estimates of moral and temperamental qualities are notoriously unreliable. The only way out is to take a large

number of judgments by people who know the subjects intimately, and average the rankings thus obtained.

The results here presented refer to two groups of seven subjects each. Each subject was ranked in his group by the paired associates method, by fifteen judges. Since the subjects and the judges live together in college and attend the same classes, the judges may be expected to know the subjects fairly well. The amount of disagreement between the judges was surprisingly small.

Table I shows the coefficient of correlation for each test with the judges' estimate, for both groups.

TABLE I.

	Test No.	Group A.	Group B.
1	..	0·43	— 0·53
2*	..	0·46	0·21 (weaker hand)
	..	0·08	— 0·46 (stronger hand)
3	..	0·07	— 0·18
4	..	— 0·15	0·53 (speeded)
	..	0·07	— 0·43 (retarded)
5	..	— 0·61	0·00 (end spurt)
5*	..	0·11	0·21 (fatigue effect)
6*	..	0·60	0·68 or 0·07†
7*	..	0·89	0·47
8	..	0·03	0·24
9	..	No satisfactory method of scoring devised	
10*	..	0·13	0·60
11	..	No significant individual differences obtained	

* Chosen for further consideration.

† One individual in Group B was ranked sixth for persistency, but came first in this test. When questioned, judges admitted that where mechanical things were concerned, this subject should be ranked first for persistency, although in his general behaviour he was not persistent. Ranking him first we get a coefficient of 0·68, while ranking him sixth the coefficient is 0·07. This case may indicate that persistency is not a general factor, but varies with interests, but we have no further evidence. Test No. 6, it is suggested, will bear further investigation, although we have not weighted it in our final team of tests.

On the basis of these results, Tests 2, 5, 6, 7, and 10 were selected for further study. The next step is to correlate these tests with each other. If the intercorrelation between any two tests is very high, they both measure the same factor, and one may be dropped from the series as superfluous. Table II shows the intercorrelations of the several tests.

TABLE II.

Tests Nos.	...	2 & 7.	2 & 5.	2 & 6.	2 & 10.	6 & 10.	7 & 5.	7 & 6.	7 & 10.	5 & 6.	5 & 10.
Group A..	..	0·29	0·29	0·37	0·30	-0·04	0·36	0·77	-0·16	0·03	0·32
Group B..	..	0·12	0·49	0·06	-0·30	-0·54	0·79	-0·75	0·76	-0·75	0·31

Test 5 correlates fairly highly with both Tests 2 and 7, but since 2 and 7 do not intercorrelate very highly, we discard Test 5 only. Test 6 needs further study, as explained in note on Table I. Test 10 also requires further investigation, since it does not in its present form give a fine enough discrimination between individuals to be of much use. Nevertheless, it is well worth further development to overcome this difficulty.

This leaves us with two tests which in their present form can make some claim to measure persistency, namely Tests 2 and 7. Test

2 does not do this with very great accuracy, but we might possibly get a more accurate measure if we combine the two tests into a team, and weight them according to their individual correlation with the independent criterion.

Taking the groups individually, in Group A we weight Test 2 as 46, and Test 7 as 89, and obtain a correlation of 0·89, which is no better than that obtained with Test 7 alone, but is vastly better than that obtained with Test 2. In Group B, weighting Test 2 as 21, and Test 7 as 47, the coefficient of correlation is 0·64, which is considerably higher than the correlation obtained with either test in this group. These results would commend the use of the two tests as a team, but obviously we must have a standard weighting to apply to all groups that are tested. The ratio of the weights is in each group, very roughly, 1:2. If we apply this weight to both groups we obtain the same results, 0·89 and 0·64.

If we include Test 10, which we have suggested requires further modification before use, and weight it 0·13 in Group A, and 0·60 in Group B, we obtain correlations of 0·89 and 0·61.

The subjects were examined by the Army Alpha Group Test, Form 8, and the correlation with persistency as measured by Tests 2 and 7, weighted, was -0·51 and 0·11 in Groups A and B respectively, and with persistency as estimated by the judges, -0·71 and -0·29. Examination results were obtained and gave the following correlations:

Examination results and Army Alpha: 0·26 and 0·11. (This low correlation, although at variance with the results of some investigators, would appear to agree with the findings of Professor Peterson, in a recent communication to the American Association for the Advancement of Science.)

Examination results and Persistency as estimated: 0·14 and 0·79.

Examination results and Persistency as measured: 0·24 and 0·79.

Conclusion: Tests 2, 6, 7 and 10 merit further investigation, while Tests 2 and 7 in their present form, correlate from 0·64 to 0·89 (weighted 1:2) with independent estimates of persistency.

DESCRIPTION OF TESTS SELECTED.

Test 2—Tenacity of Grip.

A spring dynamometer is necessary. Instructions to subject: "Hold the dynamometer with the grip comfortably adjusted, and when I say 'Go,' exert your strongest grip. Keep the grip up as long as you can, or until I tell you to relax."

The score is the number of seconds the maximum grip is maintained, allowing a margin of 2 k.m. The test is performed on the subject's weaker hand, and the best of four trials at fifteen minute intervals is taken as the score.

Test 6—Jig Saw Puzzle.

The material for this test consists of two jig saw puzzles. The first consists of pieces which may be fitted together to make a rectangle, with little difficulty for most people. The second consists of pieces which only partially fit together, that is, the puzzle cannot be solved, although the pieces do fit together in many different ways, up to a certain extent. A card bears the following instructions: "Under this card you will find the pieces of a jig saw puzzle, which, when put together, make a square like the model in front of you. See how quickly you can put it together. Do not be afraid to give up if you think you cannot do it, but do not give up until you are sure you cannot solve it."

The pieces of the first puzzle, well shuffled, are covered with the instruction card, and the subject is asked to read the instructions

aloud. When he understands his task clearly, remove the card and let him solve the puzzle. Then repeat the procedure with the second puzzle, making him read the instructions again, and scoring the time that elapses between the lifting of the card to reveal the pieces of the puzzle and the moment at which he voluntarily gives up the task.

Test 7—Distraction in Cancellation.

The material for this test consists of two sheets, one containing a printed fable, the other "pied" material, composed of all the letters from the fable, well jumbled. Each sheet is taken separately, the pied sheet first, and the ordinary procedure of the cancellation test (cancelling out e's) is carried out. The final score consists of the ratio of the speed of cancellation of prose material to the pied matter.

Test 10—Reversal of Choice.

This test is based on Dr. Martin's work on Volitional Choice, and employs a somewhat similar technique to that used in part of that enquiry. A list of fifteen dilemmas was formulated, and to each dilemma was added two alternative courses of action. These were printed on sheets, and the sheets being passed out face down, the following instructions were given:

"On the other side of these sheets you will find a series of predicaments in which one might be placed. Imagine yourself as personally involved as you can, in each of the situations in turn, and make your choice of the alternatives offered, for good reasons. Work through the list, underlining in each case the alternative you prefer. Marks are not given for speed."

After this had been completed:

"Now work through the list again, and endeavour, in each case, to reverse your judgment, i.e., persuade yourself that the alternative previously rejected is now to be preferred. Place a cross opposite those cases in which you succeed in reversing your judgment."

The score is the number of such reversals.

NOTE ON A METHOD OF COMBINING THE STANDARD DEVIATIONS OF A NUMBER OF DISTRIBUTIONS INTO ONE GENERAL STANDARD DEVIATION.

By F. S. COTTON, B.Sc.,
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THE problem arose in connection with the examination of an extensive set of anthropological measurements made by Dr. Warner on four separate groups of aborigines. Each group was treated separately and among other computations the standard deviation for each "measurement," e.g., height, weight, head length, etc., was calculated. It was evident that, with the fusion of the four groups, totalling some 320 cases and with the calculation of the new mean value for each "measurement" new deviations would have to be determined by subtraction, squared, added, etc., to compute the S.D. for the fused series. The calculation of the S.D. for the total series would therefore involve just as much labour as already expended on the four separate groups. In order to obviate this labour, a method was devised to determine by calculation the S.D. of the fused series from the number of measurements, the averages, and the S.D. of each constituent group. This involves the reference of a given set of measurements to a new value differing by a known amount from the true mean and the computation of the sum of the squares of the individual deviations from this new value, by a short expression, which is independent of the individual values.

The expression obtained was derived from the formula for correcting to the true S.D. of a distribution the approximate S.D. determined with respect to some conveniently approximate mean.

The latter formula is given* as

$$\sigma = \sqrt{\frac{\sigma_1^2}{n} - e^2}$$

where n is the number of cases,

σ_1 is the approximate S.D.,

σ is the true S.D.,

and e is the difference between the true and approximate means. It was thought that the expression so derived would be of interest to any workers who might wish:

- (a) To fuse a number of groups of results on the same "measurement" which had been completed separately from time to time.
- (b) To make use of the data published by different writers on the same index or "measurement" in order to obtain one comprehensive series.

PROOF FOR THE DERIVATION OF THE REQUIRED EXPRESSION.

Let it be supposed that there are in question distributions of some specific measurement such as head length, in the case of four groups of individuals of a common type. We wish to determine the standard deviation for the whole series.

* Cf. Thorndike, "Mental and Social Measurements," page 47.

Let the numbers of cases in the different groups be n_1 , n_2 , n_3 and n_4 respectively. Let the corresponding average values for the measurements in each group be m_1 , m_2 , m_3 and m_4 .

Let the corresponding S.D.'s be σ_1 , σ_2 , σ_3 and σ_4 .

Let $n_1 + n_2 + n_3 + n_4 = N$.

Let the average value for the whole series of measurements be M .

Let σ be the general S.D., i.e., for the whole series.

Now M may be readily determined from the formula

$$M = (n_1 m_1 + n_2 m_2 + n_3 m_3 + n_4 m_4) / N$$

or some simple modification of this, such as

$$M = x + [n_1(m_1 - x) + n_2(m_2 - x) + n_3(m_3 - x) + n_4(m_4 - x)] / N$$

where x is some suitable whole number somewhat less than the least of m_1 , m_2 , m_3 and m_4 .

Let the difference (irrespective of sign) between M and $m_1 = e_1$.

Let the difference (irrespective of sign) between M and $m_2 = e_2$.

Let the difference (irrespective of sign) between M and $m_3 = e_3$.

Let the difference (irrespective of sign) between M and $m_4 = e_4$.

Let ΣD_1^2 , ΣD_2^2 , ΣD_3^2 and ΣD_4^2 be the sums of the squares of the deviations from M , of the individual measurements in groups 1, 2, 3 and 4 respectively.

Then by definition

$$\sigma = \sqrt{\left\{ (\Sigma D_1^2 + \Sigma D_2^2 + \Sigma D_3^2 + \Sigma D_4^2) / N \right\}}$$

Now, if we regard M as an approximate mean in relation to the true mean m_1 of group 1.

We have from equation (1) $\sigma_1 = \sqrt{\frac{\Sigma D_1^2}{n_1} - e_1^2}$

$$\text{whence } \frac{\Sigma D_1^2}{n_1} - e_1^2 = \sigma_1^2$$

$$\text{so that } \Sigma D_1^2 = n_1(\sigma_1^2 + e_1^2)$$

$$\text{similarly } \Sigma D_2^2 = n_2(\sigma_2^2 + e_2^2)$$

$$\Sigma D_3^2 = n_3(\sigma_3^2 + e_3^2)$$

$$\text{and } \Sigma D_4^2 = n_4(\sigma_4^2 + e_4^2)$$

Hence

$$\sigma = \sqrt{\left\{ 1/N [n_1(\sigma_1^2 + e_1^2) + n_2(\sigma_2^2 + e_2^2) + n_3(\sigma_3^2 + e_3^2) + n_4(\sigma_4^2 + e_4^2)] \right\}}$$

It will be seen that the value of this expression may be computed in a few minutes.

On the other hand, the direct determination of σ for the whole series (which is only possible when the full detailed measurements are published), would consume a considerable time running into hours. In a similar way, any numbers of groups may be fused into a single series by the obvious extension of the formula.

DISCUSSIONS.

REASONING AND RATIONALIZATION.

REPLY TO MR. WALKER BY RALPH PIDDINGTON.

WHEN we hold a particular belief our mental state always contains affective and conative aspects ; this is a particular application of the threefold nature of consciousness. The affective element may be elation, curiosity or, as Mr. E. Ronald Walker rightly adds, fear lest our comfortable world be torn from us. But the affective element is not a part of the belief, which is the cognitive aspect of the particular psychosis. Mr. Walker's position, as I understand it, is that the entire psychosis, with its cognitive, affective and conative aspects, constitutes belief. From this point of view, the "belief" being identical with the total psychosis should necessarily change with any alteration in any aspect of the psychosis. But this is not always the case ; in fact, we regard it as an abnormal phenomenon when it does occur. My belief in the existence of a certain steamship line is unaffected by the fact that I come to a decision to travel by one of their boats ; my belief in the existence of a restaurant on the other side of the street exists independently of whether I am hungry or disinclined for food. Thus we see that the belief is quite independent of either the quantity or quality of the concomitant affective aspect of the particular psychosis, of which the belief constitutes the cognitive aspect.

Nor can we regard the belief in these cases as due to "a sentiment for logical thinking." Though such a sentiment does play a part¹ in urging intellectual people to seek the truth even where the latter is obscure, it does not itself influence the recognition of necessary truths once these are brought before the attention. Here, as elsewhere, interest determines attention, but does not under normal circumstances influence belief.

Mr. Walker's citation of the common statement : "The proof appears to be valid, but I cannot believe it," upon analysis, tends to support the view which I have maintained ; I would suggest that the meaning conveyed by these words is the following : "There is a fallacy somewhere but I cannot detect it." For if we adopt Mr. Walker's interpretation, the meaning expressed must be somewhat as follows : "The proof is, in my opinion, valid, i.e., such that the most careful intellectual criticism could find no flaw in it, but I cannot believe it." To attribute such a meaning to any rational man is inconceivable. Of course, we must remember that not for all of us is the world of absolute reality the same ; as I pointed out in my article "for the mystic the world of the supernatural is probably the supreme reality," and this principle applies to the man who would sacrifice his belief in the equality of the angles at the base of an isosceles triangle in order to retain his belief in immortality. Here the objective ("what we are constrained to think") is a totally different world from that of the normal man, but the belief here, as elsewhere, is essentially intellectual, whatever affective elements may accompany it or enter into its causation.

Mr. Walker tends to confuse the *nature* of belief with its causation, which is *ultimately* reducible to certain innate and acquired tendencies. The mystic will choose the evidences for religious belief for greater attention than the evidences against it, and the converse applies to the atheist. What are the factors here it would be irrelevant to discuss ; suffice it to say that they may be affective, but the resulting belief is intellectual in its nature. It was to meet the possibility of objections such as Mr. Walker's that I postulated

¹ Though not, I think, as great a part as Mr. Walker suggests ; I shall return to this question later.

the philosophic theory of knowledge in order to ensure that there should be something which we are *constrained* to think, not merely something which certain people have found it comfortable to think.

With regard to rationalization, the earlier denotations of the term, as outlined by Mr. Walker, have so completely gone out of use that when one meets the word in modern psychological writings one invariably understands that its denotation covers those cases in which an individual supplies a series of "reasons" for the holding of a certain belief or the performance of some act which do not give a true account of the causation of the belief or act. These "reasons" are advanced because they are not incompatible with some other tendency, whereas the true motive is incompatible. Frequently, it is implied that this latter tendency must be a moral sentiment, whereas it may be any strong tendency which was not operative before. Moreover, the definitions of rationalization in current works on psychology are extremely anthropomorphic. Such statements as the following of Tansley's² give a totally wrong view of the processes which take place : "When we give a wrong account of the causes which have led to an action, it is generally the case that we have unconsciously 'faked' a set of 'reasons' on grounds that appear to us as 'rational,' and put them in the place of the real causes of which we are unconscious." Again, Hart's definition, cited by Mr. Walker, suggests a clever sophist persuading another person ("self-deception") of the truth of a mistaken belief. What really happens is that a certain situation (let us call it S_1) stimulates the individual to adopt a belief or to perform an act. Upon further consideration the situation S_1 is brought into relation with an incompatible situation (S_2) having at the time a superior value ; as a consequence, S_1 loses value and the causation of the belief or act appears to lie in a new situation (S_3) which, though compatible with S_2 , was not present or at least not predominant before. "How could I have acted from such a motive ?" is often the protest of the person accused of rationalization.

When called upon to give an account of one of our acts, the question which we ask ourselves is usually not "Why did I do that?" but "Why should a rational being do that?" and we cast about for the best answer to the latter question, which is frequently a rationalization ; our real motive now seems silly or wicked, though it did not appear so at the time because it had not been brought into relation with the incompatible tendency.

I fail to see how my "loss of value" conception can legitimately be extended to "the process by which the mind of the intellectual rejects the delusion and seeks reality, however unpleasant" ; for the situation to *lose* value, it must necessarily have *possessed* value, actual and not merely potential, i.e., it must have stimulated the nervous system to reaction. In the case of the intellectual who recognizes that he acted from silly or wicked motives, where is the loss of value? He would have been happier if he could have thought that he had acted from noble motives, but he did in fact not think that, and the situation corresponding to S_3 above never had value, i.e., did not stimulate him to reaction.

Mr. Walker attributes the ability to give a true account of one's motives to a "sentiment for logical thinking," and uses the term "intellectual man" to denote an individual who has freed himself to a large extent from rationalization. I suggest that this usage is not supported in fact : we find many people whose scientific attainments justify us in attributing to them a "sentiment for logical thinking," but whose rationalizations are obvious to all but themselves³ ; on the other hand, we find comparatively uneducated people who never bother about "logical thought" as such, who can give a very much better account of themselves, though their indifference to scientific

¹ "The New Psychology," page 11.

² Such a man in the person of Philip Gosse is described by H. G. Wells in "The World of William Clissold," Vol. I, page 79.

problems negates a "passion for rationality" or even a "sentiment for logical thought."

As a matter of fact the tendency to rationalize is probably related to the innate tendency towards dissociation which is recognized by modern abnormal psychology, and is probably a mild variety of it. The *remedy* for rationalization lies not so much in a "sentiment for logical thought," though this may help, as in understanding the principles which govern mental life. It is often possible for students of psychology to arrive by a process of psychological reasoning at the real motives which have actuated them in spite of a tendency to rationalization, giving a totally wrong estimation of their motives. The original value of the motivating situation sometimes disappears entirely, so that only from general psychological theory can one know that it has ever existed.

Summary :

- (1) On the question of belief I have attempted to show that belief depends on the cognitive aspect of the psychosis rather than on the total psychosis as Mr. Walker suggests.
- (2) With regard to rationalization, Mr. Walker accuses me of attempting to widen the meaning of the term ; this I had no intention of doing ; I merely desired to point out that the important thing (from a psychological point of view) about certain phenomena to which the term "rationalization" is applied is the fact that a "loss of value" takes place under certain circumstances, and that the stress usually laid on the rational or quasi-rational part of rationalization gives a totally wrong view of the phenomenon and treats the matter as a logical rather than as a psychological problem.

REVIEWS.

PROCEEDINGS OF THE SIXTH INTERNATIONAL CONGRESS OF PHILOSOPHY, Harvard University, Sept. 13th-17th, 1926. Edited by E. S. Brightman. Longmans, Green and Co., New York; 1927. Pp. lxxxvii, 716.

The aim of the organisers of this Congress was apparently the securing of as many papers as possible, and their method the inviting of communications on a number of predetermined subjects, of greater or less philosophical generality. It may be suggested that for the production of work of permanent value, as well as for the promotion of discussion at the Congress, it would have been better to have a few papers by leading philosophers of each country on subjects chosen by themselves as of major importance. Nevertheless it is possible, from a consideration of the hundred short papers collected in this volume, to discover certain main tendencies in contemporary philosophy.

We note, in the first place, the almost complete disappearance of unqualified realism. The line of thought opened up by Moore has apparently been worked out, and idealism has been refuted in vain. It is quite clear from these discussions that the rock on which realism has split is "subsistence." Considering things instead of facts, subjects instead of complete propositions, the realists had to give a separate accounts of predicates, and could then give no account of the relation between the two. We find G. Dawes Hicks (London) still maintaining (p. 231), as against Broad's theory of "sensa," that "considered in abstraction from the physical object, sensible appearances are not existents; they are not entities that *have* characteristics, they *are* characteristics." To this it might be added that considered in abstraction from "sensible appearances," physical objects are not existents; they are places. Realism might then be preserved by arguing that neither of these entities *can* be abstracted from the states of affairs (propositions) which exist. But Dawes Hicks, regarding the sensible appearances or qualities as "abstracta," "real but non-existent," "outside the region of temporal flux and change," introduces the fatal dualism. "Reality" having become ambiguous, insistence on it can no longer provide the foundation of a philosophy.

Accordingly the realistic field has now been occupied by various forms of "critical" realism and, on the other hand, of behaviourism, which rejects the non-existent real mind and the abstractum "consciousness," but has not yet managed to discover the existent real mind. Hence philosophers in general, fitted by their training to appreciate the humorous picture of Watson "making up his larynx," feel justified in clinging to their precious "consciousness" and their dualism, variously expressed in terms of essence and existence, value and truth, ends and means, mysticism and science. The prevailing philosophy, then, may be described as "instrumentalism." But the agreement which this would suggest is only apparent, since the position itself is incoherent. The immediately disintegrating effect is obvious. In place of the enunciation of philosophical truths we have long discussions on what philosophy can do in the promotion of international peace (pp. 353-381), in the development of civilisation (pp. 521-557), or in sustaining and ordering our valuations and demands (pp. 285-314). So long as the delusion prevails that whatever people consider important is "their philosophy," so long will philosophy be compelled to be "interesting"; and the inability of all parties clearly to formulate an issue will pass for general agreement. But until the uninteresting subject of logic is thoroughly gone into, there will be neither real agreement nor real philosophy.

It is to the neglect of logic that the present subservience to scientists in philosophical circles is due. Just as the realists accepted the "non-existent real" entities of the mathematicians, so the dualists accept the "elements" which scientists in general find to constitute the ultimate identity of things, and, as an inevitable consequence, the transcendental or symbolic leaps from one of these ultimates to another. Scientific identity and mystical union coalesce, as they did in Pythagoreanism, and, for A. N. Whitehead (Harvard), Zeno might never have existed. "If time be taken seriously, no concrete entity can change. It can only be superseded. Also it must be superseded because supersession is part of its real essence" (p. 59). And yet each concrete entity or occasion "is internally a process of supersession." If this does not mean that it *changes*, then the phases which supersede one another are no phases of it, and it is not "internally a process." Whitehead, however, is prepared to invent principles to bridge every gap. Thus (p. 61) when occasion A is antecedent to occasion B, "B prehends A into itself as contributing a measure of determinate completion. This prehension of A into B is a relational functioning with an individual character expressible in terms of eternal objects. These eternal objects, thus functioning, determine the objectification of A whereby it becomes a constitutive element in the concrescence of B. This transaction exhibits A as relatively determinate, except for its indetermination arising from the indetermination of B in the converse anticipatory objectification of B in A." This piece of mystification is part of the "doctrine of objective immortality."

The notion of "emergence," which is the subject of the opening discussion, further exemplifies the attempt to solve problems by inventing terms and the difficulty of finding relations between essences (when this means uniting different identities!). H. Driesch (Leipzig) boldly upholds the reduction of causality to identity by declaring (p. 3) that embryological evolution, which, if anything, might be expected to exhibit emergence, "is determined both by the constellation of matter and by the essence of entelechy. And it would be 'predictable,' if you knew both." Driesch actually makes a reference to something "first seen by Hume," but like the other participants in this discussion he seems to have missed what Hume most emphasized, *viz.*, that cause and effect are two different things, and that no amount of juggling with the notion of "power" (call it "entelechy" or "prehension" or what you will) will do anything to reduce their difference. The effect, then, always has characters which the cause has not. And thus the view expressed by A. O. Lovejoy (Johns Hopkins), in spite of some very pointed criticism of pre-formationism at the beginning of his paper, that "emergence" is not "the general rule throughout the physical universe" (p. 32), has nothing to support it. As Russell pointed out long ago ("Principles of Mathematics," p. 477), even in so simple a case as that of the parallelogram law, we have a resultant of which no amount of knowledge of the antecedents could have informed us. What in particular can be meant, therefore, by the "new and richer forms of being" which Lovejoy regards as possibilities in our planet, even if the "cosmos" does not at the same time improve, does not appear.

K. Vorovka (Prague), while still showing a certain subservience to the scientists, raises the really important issues in the theory of causality. He points out that, although in physics we are supposed to formulate the order in which, by internal necessity and without reference to causality, systems proceed, we actually experiment with systems upon which we act. And since the notion of a total system evolving in accordance with an infinitely complicated law is quite imaginary, we have to substitute for Kant's conception of causality

as the occurrence of every change in accordance with some rule, the following formula (p. 341): "*Si le cours régulier d'un système matériel subit un changement, ce changement est dû à l'action antérieure d'un autre système, action à laquelle il suit en vertu d'une règle.*" The argument, however, must be pressed further. If, as Vorovka says, we cannot conceive a closed universe, then we cannot "isolate" any system, since it would then be indistinguishable from a universe. The "regular course of a system" is just the existence of a certain sort of thing, which has certain things as constituents and equally is a component of certain other things. All physical laws then are causal; all involve the external action (*action suffisante*) of which Vorovka speaks. But this theory does not lead to the rejection of a thorough-going determinism, though certainly of a monistic one. What Vorovka says of us—"Nous sommes des systèmes actifs partiellement déterminés par les actions des autres systèmes, mais concourants par nos propres actions à déterminer le cours du monde"—will, with the substitution of "*des autres systèmes*" for "*du monde*," apply to all things. It would be a very strange determinism which said that a thing itself was nothing and its environment everything.

The interaction of things, each of which has characters of its own, is sufficient to account for those facts which are supposed to indicate the reality of "freedom" and "values," and to take us beyond existence. W. M. Urban (Dartmouth) uses "values" to refute the view that logic is the science of existence. Logic, he says (p. 288), "remains what it has always been, the science of correct thinking and intelligible expression." But surely expression is intelligible only in relation to what is. And if this is to be defined as "what is the case" and distinguished from "existence," then "existence" must be a particular quality of things which are the case, and "value" another. If ambiguity were introduced into the *copula*, then no statement would be intelligible; and we should never know when we were making a "valuation." Yet Urban, although he admits (p. 286) that "in judgments of value, value is predicated by means of the same verbal and logical form as a quality is predicated," thinks that it cannot be a quality. This is to play fast and loose with "intelligible expression."

Urban's difficulty is this. We say that certain things "ought to be," but we may be told that "if A exists, it is already as it should be, for it cannot be otherwise." We certainly may, but it is no answer to say that A may be otherwise in value, without being otherwise in existence. The fact is that A may, without ceasing to exist, acquire the character X, and we may say that A's being X is better than A's not being X. In saying so we are not departing from considerations of existence; as A. P. Brogan (Texas) points out (p. 310): "It is the actual existence or occurrence of one described experience which is (or would be) better than the actual existence or occurrence of another described experience." We might, of course, mean that a situation of the sort B, containing A, is better than a situation of the same sort, not containing A. And if we said that A "ought not to be," we should mean the reverse of this. But we are not committed, as Brogan thinks, to Meliorism. The notion of "ought" results from the confusion of a relation with a quality, and, if this confusion is avoided, we can treat of positive, and not merely of comparative, goodness.

The theories of F. C. S. Schiller (Oxford) are based on confusions of this type. In this discussion we find him stating (p. 296) that "for a 'fact' to shed its inverted commas, for an *alleged* fact to become a *real* fact, is an achievement to be proud of." But it should surely be clear that if we now recognize that something previously alleged

was in fact true, nothing has happened to the fact. *It hasn't achieved anything, it hasn't "made its way" when people come to believe it; no one asks it to "plead that it has had no truck with values."* Yet the existence of Schillerism as a *reductio ad absurdum* of instrumentalism has not, we note, prevented instrumentalism from making its way, or values" from shedding their inverted commas.

In Ethics and Aesthetics the theory of "values" is dominant, and naturally the question whether they are subjective or objective still crops up. If "value involves appreciation" (L. J. Russell), if "cognition is itself valuational" (Urban), then Moore's refutation of relative ethics is wrong. W. D. Ross (Oxford) shows clearly enough that it is not wrong; that good "for us" means what we *think* good, and that what we think is that something *is* good. Whether we are right or wrong in thinking so, the issue is independent of "our valuations." If Moore's argument has, as these discussions substantially show, been ineffective, we may presume that this is partly due to his own confusions. In treating good as essentially an "end he re-introduced relativism, and in regarding it as a non-natural "subsistent" object, he diverged from the view of ethics as a positive and demonstrative science, a science to be worked out by discussion; apart from which the notion of "objectivity" has no particular application.

Ross carries this illogical intuitionism and instrumentalism further, arriving at the conclusion (p. 408) that "the only predication of good that are inferential are those in which we are not predicating goodness-in-itself but goodness-as-a-means." This position, which is a muddled way of saying that *no* predication of good are inferential, is derived from the consideration that, granted that X is good, then if we take any instance of X, we are taking something which is essentially X, and to call it good adds nothing to our previous assertion. "For to be a species or instance of virtue, insight or pleasure is not a mere attribute of such a species or instance; it is its whole nature." In other words, syllogism is not inference; we are back, *vidē* "essences," at the instrumental logic of Mill.

The trail of essence or subsistence is everywhere, and the natural question—"What then are we to make of the proposition?"—receives scant consideration. L. Noël (Louvain), indeed, points out (p. 618) that the predicate of one proposition may be the subject of another, but in the latter case, he considers, the subject is an "abstract term" and is not a "primary subject." What this theory of abstract terms leads to is well shown by E. Becker (Munich): "*So können wir z.B. über das Sosein oder Idealobjekt 'Rot' und das Sosein oder Idealobjekt 'Purpur' das Sosein—oder Idealurteil fällen: Rot und Purpur sind ähnlich*" (p. 196); as if this comparison could be made except by direct reference to what exists. And the theory of the primary subject, the "this," which cannot be a predicate, is but the other side of the picture. The primary subject, says Noël, "is opposed to all the notions meant by the predicates; it is also opposed to the mental activity which forms the notions and constitutes the judgments." Yet it is "as corresponding to that subject or representing it" that the concept gives us the possibilities of truth and error. No miraculous emergence of "the intelligible object from the sensible datum" can solve this difficulty; we should require to see it emerging. In other words, "concepts" and "primary subjects" are alike to be rejected, and with the recognition that any term may be either subject or predicate, we have all that is required for truth and error in our propositional beliefs.

The development of the theory of the proposition, the formulation of a consistent logic, depends then on the removal of distinctions

among ways of being. And R. F. A. Hoernlé (Witwatersrand), in offering a criticism of prevailing views on subsistence and existence or universals and particulars, makes at once the least typical and the most important contribution to this volume. He does, indeed, make concessions to the mathematicians, whose theories, starting from "essences found embodied and realized," go on to consider them apart and to show how they are "developed into ramifications dictated by their own inner, i.e., essential, necessity, without reference to embodiment" (p. 271). But some account, he argues, must be given of this embodiment. "(1) If we distinguish particulars and universals as two different kinds of objects, of which the one exists, the other subsists, how are we to deal with the 'this-such,' in which the distinction of 'this' and 'such' affords a basis, indeed, for the predication 'such' as a *quality* of 'this' whilst yet not amounting, as given, to this relationship, nor to the diverse ontological status subsequently ascribed to substances and qualities? (2) And, after we have developed the two aspects into particulars (or substances) on the one side and universals (or qualities) on the other, can we give any intelligible accounts of how a subsistent object can qualify an existent one, or what 'realisation' of a subsistent object can mean?" No doubt we cannot. But what Hoernlé has not sufficiently considered is whether, insisting on the "this-such" or proposition, we can intelligibly speak of "essences" at all.

In fact, if we accept the consequences of absolute idealism's criticism of the dualistic positions of the neo-scholastic and "critical" schools, we cannot accept absolute idealism. For it embodies the fundamental dualism of what is "ultimately" and what is "relatively," which is the real source of all the dualisms. What "intelligible account" can we give of the relation between the Absolute and its "aspects," subsistence and existence, or whatever we care to call them? Aspect, Hoernlé admits, "may be a vague term, and I wish I could think of a better: but it is at least a convenient reminder that the differences belong to a unity." In short, he wishes to maintain that universals and particulars are different, but are not different things; and therefore he substitutes for Noël's "primary subjects" a single "ultimate subject" or *This*, which is the only thing. To do so, however, is not to escape from dualism. The statement that "reality as a whole, conceived as a 'this-such' on a large scale, as a self-consistent system of essences embodied or realised, has the mode of being with which any 'this-such' given in experience makes us acquainted," is meaningless unless there are essences, and is uninformative unless we are acquainted with "this-suches" without being acquainted with "Reality as a whole." But if we are, there can be no question of any "ultimate subject."

The formula "this-such" is definitely misleading in that it suggests that there are two classes of terms, subjects and predicates, i.e., that "being a character of" something excludes "being an instance of" something else; and also in that it neglects the *copula*, and its necessarily unambiguous character. Like Urban, Hoernlé thinks that this question "may be disposed of summarily by saying that 'is' must be understood to import, not merely 'existence' as distinct from other modes of being, but any mode of being which is demanded by the nature of the terms of the proposition, in the context in which the proposition occurs." But if there are different modes of being, we are not in a position to know the import of *any* proposition. Similarly, Hoernlé disposes of the view that existence means being in Space and Time, by asking whether Space and Time themselves exist. The negative answer brings us back to subsistence, the affirmative "seems meaningless." It will, of course, be agreed that Space and

Time are not things or events. To explain how we come to use the terms, account would have to be taken of the detail of Alexander's exposition of the interrelations of events. Here it may simply be said that the proposition "all wholes are parts," which involves the rejection of the conception of "Reality as a whole," roughly conveys what these terms mean. On the other hand, the conception of "totality" rests upon the desire to stop or turn back Time; a desire which is the common source of essences and of all forms of mysticism. But, when all criticisms have been allowed for, the raising of these problems by Hoernlé is a welcome sign that philosophy is alive in one quarter at least.

JOHN ANDERSON.

PHILOSOPHY TO-DAY: Essays on Recent Developments in the Field of Philosophy. Collected and edited by Edward Leroy Schaub. Open Court Publishing Co., Chicago; 1927. Pp. 609. Price: \$3.75.

In his prefatory note the editor tells us the origin of the idea of which this volume is the fruit. After calling attention to the often expressed view that national and linguistic groups give distinctive forms to philosophical doctrines, Dr. Schaub writes: "The cleavages arising from the Great War vastly increased the philosophical isolation of the linguistic groups. Then, shortly thereafter, arrangements were begun for the Sixth International Congress of Philosophy. It was about this time that the undersigned assumed the editorial responsibility for *The Monist*. Desirous that this journal make some special contribution to the success of the Congress and to the need on the part of philosophers for a wider knowledge of recent philosophical developments in countries other than their own, he solicited from authoritative scholars surveys covering the main fields of philosophy especially cultivated by various linguistic groups since about the outbreak of the war. Unfortunately only a part of the promised material was received in time for publication before the Congress. Much of the rest gradually followed, though in some instances only after substitutes had been secured for persons who initially assumed the responsibility for essays."

The surveys were originally published in *The Monist* and are now, together with some additional essays, presented in the volume before us. No one can doubt the great value of periodic surveys of this kind by leaders in the different fields of philosophical inquiry. They are especially welcome in Australasian Universities, where the staffs are small, the programmes extensive, and specialization, therefore, almost impossible.

The book is divided into three main divisions, dealing with contemporary philosophy in English speaking countries (eight essays), French speaking countries (ten essays), and German speaking countries (nine essays), together with a single article on each of the following: "Russian Contemporary Philosophy," "Contemporary Philosophy in Scandinavian Countries," and "Contemporary Philosophical Tendencies in S. America, with special reference to Argentina." There are obviously a good many gaps in the series, notably in the absence of any reference to Italian thought, but in his note the editor has indicated the sources from which these gaps may in some measure be made good.

Æsthetics, Logic, Ethics, Religion, Philosophy, Psychology and Metaphysics are the general titles, but in the French section there are also surveys of Sociology and Pedagogy, and in the German section surveys of the Philosophy of the Exact Sciences, Philosophy of

Nature, and Legal and Political Philosophy. Thus in the main sections of the work the principal fields of inquiry are covered, though the absence from the English section of an essay on Psychology is very striking and is to be regretted.

It is clearly impossible in a short notice to give any detail of a work that aims to cover the whole realm of philosophic thought, but a volume that includes surveys from (among others) such well-known authorities as R. F. A. Hoernlé, R. W. Sellars, Wilbur M. Urban, André Lalande, Jean Piaget, Ed. Claparède, Hans Driesch, Max Dessoir, A. Wenzl, and Harald Höffding carries its own recommendation with it. Most of the surveys are very well documented, and thus provide most useful guides to the literature of the various topics.

The volume is produced in a most pleasing form and reflects credit on the editor and publishers. Is it too much to ask for a good index in a book of this kind? It would certainly increase its effectiveness.

T.A.H.

CITY GOVERNMENT BY COMMISSION: AN HISTORICAL ACCOUNT OF THE FIRST EXPERIMENT IN THE GOVERNMENT OF SYDNEY BY A COMMISSION, 1854-1857. By F. A. Bland, M.A., LL.B. Reprinted from *The Journal and Proceedings of the Royal Australian Historical Society*, Vol. XIV, Part III, 1928.

This concise little work has many points of significance for the citizens of Sydney to-day, in view of the present form of the city's government. The value of past experience in such matters must always be recognized, and it is to be regretted that we in Australia lack considerably in properly recorded information on many problems which have in the past confronted our governments, especially in the administrative sphere. Mr. Bland's book will assist materially to fill the breach.

The writer has treated the subject chiefly from an historical aspect, and allows us to envisage the precise circumstances which impelled Parliament in 1854 to abolish the City Council, and to place the government of the city in the hands of three specially appointed commissioners. It may readily be gathered that the Sydney of 1854 was perhaps further removed from to-day's present state of development, in many ways, than the seventy-four years since elapsed would seem to indicate. The establishment and growth of a city upon virgin soil would naturally present countless difficulties, but the position was aggravated by the unsettled political situation in the 'fifties, when the Colony was fighting for self-government. Nor were matters improved by the failure on the part of Parliament to realize the distinction between matters of State-wide importance and those which were of purely municipal consequence. It is this, no doubt, to which we must attribute the restrictions of the early Corporation Acts and the continuous interference in the government of the city.

Commencing with the passing of the Corporation Act of 1842, Mr. Bland traces the events leading to the appointment of the Commission fourteen years later. From its initiation the history of the Council was far from happy, and municipal affairs in the city went from bad to worse. The streets were in a dilapidated condition, water supply and sewerage facilities were hopelessly inadequate, and the city's finances were in a parlous condition.

It is interesting to compare the various reasons advanced at the time for the conditions existing in the city. The whole matter was the subject of a bitter controversy in which personal animosity often ran high. Those who defended the Council pointed to the hampering

restrictions of the Corporation Acts, especially on the financial side. The opponents of this viewpoint, however, led at the outset by Robert Lowe, later to become famous as Chancellor of the Exchequer in Gladstone's second Ministry, while admitting the inadequate means of the Council and the deficiencies in its Charter, stated that these were as nothing compared with "the gross and palpable misconduct of the Corporation itself." Its laxity in both collecting and expending public moneys had shown it to be unworthy of a continuance of the people's confidence, and its abolition was advocated.

A dispassionate survey of the facts reveals truth on both sides of the controversy. Both financially and constitutionally the position of the Council was false, while, on the other hand, it had proved itself incapable in its administration. Whatever compromise may have been possible between the two viewpoints, Parliament decided, in 1854, after an extraordinary series of climaxes and anticlimaxes extending over six years, to adopt the commission idea, placing the government of the city in the hands of three men—Elliott, Darrall and Rae.

Created in an atmosphere of heated controversy, the history of the Commission in its three years of office was far from smooth. It is to its credit that in that comparatively short space the city was rehabilitated, streets and pavements constructed, a sewerage system installed and a water supply partly completed. But works of such proportions involve great expenditure, and the new colony was not altogether prepared to appreciate this fact. The Commissioners had considerably greater success in obtaining financial assistance from the Government than had the City Council, and received large endowments for water supply and sewerage works.

Parliament, however, continued its vexatious policy of strict control of the city's finances. The amount of rate proposed to be levied for city purposes was still subject to the approval of the House, nor was the position bettered by the dilatory manner in which Parliament dealt with these matters. The experiences both of the Commission and of the City Council in this regard serve to indicate the great importance of some degree of financial independence to really successful administration. Some form of check is certainly essential in the interests of public welfare, but unless this check is intelligently and promptly applied, it must inevitably defeat its own purpose. The Commissioners of 1854 largely overcame their financial difficulties by pushing ahead with their programme in the knowledge that the Government would performe make good any deficiency. Such a system was fundamentally at fault, and would doubtless have ultimately meant the ruin of the Commission, had it not succumbed earlier to the pressure of its opponents in Parliament.

The exit of the Civic Commission was perhaps even more stormy than its advent. Accused of extravagance and inefficiency for the greater part of its *régime* it was swept away on the tide of political feeling in 1857. In reality, the citizens were no longer prepared to foot the bill for the work which the Commissioners were performing, although none could deny its urgency.

In those days Sydney was faced with a problem the solution of which, even to-day, is but little closer. We have yet to devise a scheme which will ensure at the same time both popular control of the administration and the utmost of efficiency and economy in the work of government. This difficulty is particularly prominent in the municipal sphere, for there the popular representatives and the officials come regularly and closely in contact with each other. The ideal form of city government would seem to be that which provides for the application of the broad principles of public policy, and at the

same time leaves questions of purely administrative consequence and the work of administration generally to the officials. Commission government, as exemplified in Sydney both in 1853 and to-day, overlooks the democratic principle, in the interests of administrative efficiency. The control of the affairs of the city is taken completely out of the hands of the people. On the other hand, the City Council, even with the later development of the committee system, has tended to interfere unreasonably in the determination of administrative detail.

Some compromise between the two extreme forms of city government would seem essential. We have in the United States and in Germany many examples of the manner in which this selfsame problem has been dealt with. Surely we may profit by a closer study of these experiments.

Mr. Bland sets out these problems in a way that shows him to be a complete master of his subject. It is to be hoped that the question will have his further attention, and that we may shortly expect something from him in the form of a concrete proposal for reform—more especially in view of the likely introduction of the Greater Sydney Bill.

W. I. POTTER.

PSYCHOLOGY AND THE SOLDIER. By F. C. Bartlett, M.A., Director of Psychological Laboratory, Cambridge University. Cambridge University Press, 1927. Pp. viii, 224. 7s. 6d. net.

This suggestive work comprises a selection of lectures from a course dealing with psychology for officers undergoing military studies at Cambridge University. It is intended not as a treatise on military psychology, but as a demonstration of the practical value of psychological training for soldiers. Mr. Bartlett introduces sufficient matter to show to the military authorities the need for an understanding by army leaders of the mental processes and reactions both of individuals and groups.

The book is divided into three divisions entitled, *viz.*, Choosing and Training the Recruit; Leadership, Discipline and Morale; Mental Disorders of Warfare. In the first section the author gives a brief account of various methods of testing intelligence, the special senses and fatigue. Mr. Bartlett here shows how the psychological laboratory can help in dealing with the problems of selecting and training recruits. It is not intended that men untrained in psychology should conduct intelligence examinations; but knowledge of the methods and results of these examinations is of value in order to interpret psychological reports and to carry out the technical advice and directions given in them.

The second section on leadership and discipline is exemplary. The treatment is an excellent piece of work in social psychology, applicable to industry and politics as well as to soldiering. The same appreciation applies to the chapters on training, bodily skill (including incentives), practice and motives in skill, and group games. And in view of this the book should have an appeal far wider than its title would indicate.

In the last section on mental health and disease in warfare, Mr. Bartlett draws mainly upon his experiences as a psychologist in war service. Of the physical basis of mental disease he has little to say, as it does not directly concern the military officer. But it is necessary that he should know something of the psychological factors underlying aberrant conduct in military service, as he will be better enabled to note data of inestimable value to the psychiatrist in

the treatment of cases of mental breakdown, due to the excessive strain of modern warfare upon men who in civil life might otherwise come safely through various stresses.

Finally, Mr. Bartlett concludes that training in psychology should be made a part of any general scheme of preparation for a military career. He pleads that the military authorities should provide adequate facilities for psychological research. The same plea may be made and should have been made in Australia in the interests of repatriation. "The time is ripe," he says, "for establishing the closest co-operation in research between the laboratory psychologist and the military officer who can be shown to have the capacity for psychological work. Any country which undertakes this matter seriously and with judgment will be taking a great step towards rendering its offensive and defensive services efficient in directions which, while they are of supreme importance, have been frequently neglected."

E. MORRIS MILLER.

INSTINCT AND PERSONALITY. By A. Campbell Garnett, M.A., Litt.D., Lecturer to Tutorial Classes in Philosophy in the University of Adelaide. London: George Allen & Unwin; 1928. Price: 8s. 6d.

THE author is concerned to show how consistent with all the known facts is the dynamic view of mind. Man is not to be explained by reducing him to cells or molecules, but only by the study of what he does. The sources of his actions will alone reveal the meaning of his existence. Man, like all other organisms, acts because he must act: what is alive must act. And this urgency of life is not merely due to the possession by the organism of superfluous physical energy. An additional factor is operative, a factor urging the organism to expression. For Dr. Garnett this additional factor is mind.

The urgency of life is not merely general in expression, but tends to be specific and purposive. This specification gives rise to different types of urges called the instincts. "While reflex action is the innately determined organic response to a sensory stimulus, instinctive action is the innately determined response of the whole organism to the perceived meaning of a situation" (p. 26). (Stout's three criteria of instinct are invoked in support of this view.) Instinct is thus related to expectation, for meaning is composed of expectation. What needs to be explained, then, is how "certain expectations of action should form a part of the meaning of certain objects without the creature having had any prior experience of such activity in relation to them" (p. 33).

Structurally, an instinct is a disposition, or neurone pattern, consisting of three parts: it is the stimulation of the central part which creates the expectation of a certain line of purposive activity. So that the author's definition of instinct is "an innate neural structure which, by determining the meaning of a certain group of presentations to include the expectation of certain purposive behaviour, directs the attention of the individual to those presentations and impels it to a certain purposive line of activity with regard to the object presented" (p. 36).

This conception that expectation of an activity initiates that activity becomes a central principle of explanation for Dr. Garnett. He turns to the phenomena of suggestion and auto-suggestion for proof of a real causal connection between expectation and activity. The phenomena of suggestion are to be explained by the fact that action, and even physiological process, tends to follow in the line of expectation. An effort is made to produce in the patient's mind an expecta-

tion of improvement, and it is this expectation which induces the cure. Effective suggestion is simply expectation at work. The "law of reversed effort" shows that willed activity cannot take place unless it is expected. The experimental study of fatigue, it is claimed, demonstrates the same truth. For the exhaustion of fatigue is not so complete that stimulation of the appropriate nerve by a weak current will not cause further movement. It is because the fatigued subject no longer expects a response that further possible movement does not occur. Willed movement became impossible because the feeling of fatigue made the subject believe it was no longer possible. Pathological cases provide further evidence. For example, so long as a man, affected by war neurosis, believed he was paralysed, or dumb, or blind, he remained so; but, persuaded that he was not paralysed, or dumb, or blind, he became well again.

But this expectation can have the force of urgency. The urge of life which is found in instinctive structure is the urge of expectation, and a forward-looking teleological consciousness is the ultimate fact of existence. Dr. Garnett rejects the view that instinct is the source of libido or vital energy. Instinct cannot explain either recreative activity, *i.e.*, play, or the higher moral interests and activities of man. In both of these there is a more fundamental urge, the urge of life. Instinct is not the source of the urge of life. It does not accumulate superfluous physical energy which then overflows into the aimless recreative activity of play, for example. Neither is appetition created in this way, but rather by "recurrent physiological stimuli within the animal's own body or by the constant stimulation which provides no opportunity for satisfactory expression. There is no process of a gradual gathering of energy within the neural or mental structure." Instincts "are not accumulators of energy, but structures which give meaning to certain presentations" (p. 67). The author thinks, therefore, that there is required a revision of the doctrine of "sublimation." It is not necessary, he says, to sublimate the energy of the instincts for they have no energy to be sublimated. The general urge of life, however, does need to be kept occupied if it is not to add its weight to the natural impulse. The recommendation for practice, then, is to provide for every individual useful occupation governed by strong interests of a definite kind, and not to attempt to sublimate special instincts.

In a chapter on The Native Human Motives, McDougall's criteria of instinct are considered. The third of these is rejected; the others are considered useful in distinguishing the different instincts. The real criterion of an instinct, however, is its end, which, bringing satisfaction to the animal causes the activity to cease. Using this criterion the author distinguishes sixteen instincts, and just here he shows a notable capacity for detailed and capable analysis.

But neither is the force of the ideals to be accounted for out of instinctive urge. Even McDougall's brilliant analysis of the sentiments has failed to account for the impulsion to do the right, for example. This is a purposive urge for which the structures called instincts cannot account. The theory that would trace all our moral judgments to the instinctive emotions, cannot tell us why we ever ascribe a higher value to weaker altruistic than to stronger egoistic impulses. The reason is that the altruistic motive satisfies some urge of our nature that is more fundamental than the instinctive urge. The instinctive end is always a means to a further end while ideals have an ultimate value. Every instinctive urge has a point of satiety beyond which pain and injury are caused; but for the urge of ideals there is no point of satiety: they are not merely means, but can only be pursued well if pursued for their own sakes (p. 111). The desires of the spirit are unconditional and ultimate: they are different aspects

of the spirit's one desire for ever fuller life. Universal life is the ultimate end of life. The ultimate good is life itself, lived in the fulness of its capacity and scope.

But the facts of unconscious function would seem to contradict the view that mind is unitary and that expectation is the initiator of action. Dr. Garnett admits that there is sufficient evidence for the existence of a dynamic unconscious. However, he rejects Freud's theory that the repressed wish presses for fulfilment *because the complex is charged with stored-up energy*. The problem is to be explained rather by the fact that mind works from the end to the means. A complex first directs attention upon its fulfilment. In waking life this tends to result in processes of thought and activity directed towards the realization of the end. In sleep, however, because the motor apparatus is cut off, no such activity results, and because the critical consciousness is inactive the idea attended to appears in the dream consciousness with hallucinatory vividness. The dream, then, is the result of the normal working of the mind and brain as affected by the peculiar conditions of sleep. Still, the fact that dreams are wish-fulfilments is in accordance with the author's theory of the place of the purposive consciousness in all activity.

Now memory is the process whereby past experience is registered, conserved and reproduced. Failure of any one of these processes means failure of memory. It is the failure to reproduce what has been adequately registered and is still conserved which constitutes the fact of dissociation. The theory of the psycho-analyst that we forget in this way what is unpleasant because it is unpleasant is too simple. The explanation of dissociation is rather to be found in the fact that interests have an inhibitory effect upon what is contrary to them. Many things are overlooked or forgotten because they are of such a nature that it is not in the interest of the dominant tendency that they should be remembered. The so-called "dream censorship" is only different from the inhibitions of waking life in that it works more automatically: it unconditionally slams the door in the face of all that is contrary to the ruling interest of the conscious personality: in other words, it continues in a blind and unintelligent way the attitude of hostility which consciousness had begun. And the neurosis is analogous to the dream. In neuroses, too, the struggle having been given up, the dominant interests of the personality simply shut the contrary elements out of consciousness. The explanation of dissociation lies in the working of the mind's interests.

What, then, is the nature of unconscious process? The phenomena of suggestion are of great service here. Expectation initiates action, but suggestion shows us that *with the passing out of consciousness of the idea, expectant attention to which has initiated a process, that process does not necessarily cease*. Though initiated in consciousness, the process is now a purely physiological one. The neurological and otherwise physiological process, once initiated in an act of consciousness, will, unless counteracted in some way, go on fulfilling itself even after attention has been withdrawn from the idea in the service of which it was started (p. 170). The hypothesis of a subconscious mind seems to be unnecessary.

The author's hypothesis about the unconscious is therefore the following: *all unconscious processes are purely physiological continuations of neural processes initiated by expectant attention and then dissociated* (p. 173). And he concludes that there is nothing in the facts of unconscious process to contradict his view that the human mind is a conscious active and teleological unit.

The difficulty of unconscious process being removed, the author continues his inquiry into the nature of mind and its connection with physical processes.

As meaning is composed of expectations and expectations carry with them tendencies to action, the conception of the Ideal must always involve a motor tendency. The Ideal, by reason of the expectations of which it is composed, becomes an urge. As the urge of instinct and of recreative activity is likewise experienced as expectation, "the one essential psychical condition of all physical activity" seems to be expectation: physiological mechanism lies inert until the creature *expects* it to move. Expectation is psychical and seems essential to action. Indeed, it is the only psychical condition which seems to be essential to organic activity.

It is, however, not necessarily a definite expectation of a particular activity aiming at a more or less clearly foreseen result. It may be only a "felt impulse" to alter the present situation. Throughout the whole animal kingdom this factor of urge can be distinguished. The behaviour of Jennings' amoeba shows purposive striving in the absence of a brain and nervous system. It is the life urge, therefore, which is fundamental rather than physical organization.

This life urge the author, following Professor Nunn, conceives as *horme*. For Professor Nunn, however, the activities of lowly organisms, though hormic, may or may not be conscious and conative; for Dr. Garnett those activities are conscious.

But some organic processes, though hormic, are unconscious. For example, pathological unconscious processes, initiated in consciousness by the act of attention called expectation, on the withdrawal of that attention, continued as unconscious process. The author asks, therefore: May not every physical function similarly have been first initiated in consciousness and then allowed to become automatic? He believes that the factor of expectation has been at work in the growing stages of the organism's development. On this view, those hormic processes which have thus become automatic, are unconscious; they are habits of the organism. At one stage in the development of the embryo these responses to the stimuli required the same expectant consciousness as was required later in responding to those stimuli of a rudimentary instinct which impelled it to its first attempt to walk.

Consciousness, then, is not a later development, an advanced type, of hormic process. The hormic processes which are not conscious are the spoils of battles which consciousness has won and from which it has passed on (p. 196). Consciousness is simply the point, in all the hormic processes of an organism, in which its life is most alive: it is the growing point of life.

Horme is not merely an aspect of mind; rather is all life horme, and mind is a manifestation of horme or life. Mind is the growing point of living or hormic process, and has a certain definiteness of direction given to it by its relation to the whole.

Conation, too, is to be distinguished from horme: it is horme of which we are conscious. "Horme includes all those elements of life process, both conscious and unconscious, which transcend the categories of physics and chemistry. Conation includes only those at the growing point. This means that conation is the fundamental fact of mind and that it is immediately and subjectively experienced" (p. 198). Conation is experienced as an immediate awareness of self-activity. This experience is fundamental, all others being but changes in its progress or direction. For example, it is changes in the progress of the experienced conation that we describe as *Feeling*. Pleasurable and painful feeling are determined by the ease or difficulty with which the conation moves to its end. Sensations, too, will be pleasurable or painful according as they further or obstruct our conations. Again Emotion is only a differentiation of our conative experience. The author also believes that the explanation of cognition lies in this view of conation as an immediately conscious process, for the data of

cognition are given in the actual experienced conation. The mind in attending to the data of experience, "becomes aware of relations between them." Thus it comes to know of Causation, Time, Space, Identity, etc. Nor is the author daunted by the psychologist's usual distinction between cognition and conation. Cognition is a quality of distinctness dependent upon degree of attention; but the attention is but a change in the hormic process.

Finally, memory can be interpreted in harmony with the dynamic theory advanced. The central difficulty here is the problem of the medium in which the memories are stored. From what has gone before the reader will realize that the author's view is that the medium is purely physiological. "Experience is not a mere mental correlation or reflection of brain processes: it is *horme*, acting in and through brain processes, and affected by them . . ."

For the hypothesis of *horme* the author now claims that it has appeared as a clarifying concept in the elucidation of every psychological problem to which he has applied it.

The author concludes with an argument calculated to justify a certain form of interactionism. The difficulty of the philosopher dealing with this mind-body relation, has been, Dr. Garnett thinks, due to regarding the body and mind as two discrete and utterly diverse sets of facts. He asks us to regard the human or animal organism as a living unity—a body-mind. "The two are not separated in our experience; they are only separated in our thinking about experience" (p. 211). In the living cell there are facts, not merely of mechanical, but of hormic processes. Instead, then, of insisting that the hormic processes must be understood in terms of the mechanical, let us accept both sets of processes and see whether they may not each help us to understand the other better.

Now the question is asked: Which may be assumed as fundamental—the cell organization or *horme*? "In the first living organism was it the cell organization which gave to its actions and reactions that element of 'drive' which had never been present in the unorganized matter; or was it an element of 'drive' in the unorganized matter which created the organization of the cell through which it then worked?" Dr. Garnett holds that the second alternative is true. It follows from this position that, before animate organisms existed on this planet, *horme* existed, in some form, in inanimate matter. Inanimate matter is not, therefore, conscious. Consciousness is the growing point of life. "As the physiological processes of the developing embryo pass into unconsciousness, as they become fixed and automatic, and as consciousness became occupied with higher developments, so, we must believe, the physical processes of the material universe passed into unconsciousness as they become fixed and automatic and as its consciousness became occupied with higher development." One of these new developments was the first living cell, in which the consciousness of the universe became centred, and that cell became the growing point of the universe. Consciousness is not merely the growing point of life; it is the growing point of the universe.

Altogether the reviewer has found this a very interesting book. It is marked throughout by great clarity and a capacity for analysis. There is, too, a notable consistency in the argument. The book is a thesis in the best sense. The author has one clear theme, that of a forward-looking tendency which he calls expectancy to begin with. Expectancy is then shown to be a fundamental quality of mind, springing from conative consciousness which itself is an aspect of an all-pervading hormic principle. The subject is too large to be discussed here, but one can express a lively sympathy with the views of the author. It has always seemed to the reviewer, for example, that the urge of life is more fundamental than the urge of instinct, in the

sense that the instinctive structure provides the specific channels through which the energy of life can run for specific purposes. If that be so, however, why cannot the energy of instinct be sublimated? It is itself direction given to life energy. Why then can we not give it a new direction? Does not the principle of the "conditioned-reflex" show us how this new direction may be given? And would not this give a specific lead to those engaged in training the young, a lead preferable to a general recommendation to keep them occupied, much as one agrees with the wisdom of providing occupation? Again, the conception of expectancy is worked very hard. One wonders whether structure should not come in for more sympathetic treatment. Finally, it seems a rather bold speculation to conceive of matter as a kind of congealed consciousness.

H.T.L.

JOURNALS RECEIVED.

THE JOURNAL OF PHILOSOPHY. Edited by Professors Woodbridge, Bush and Schneider, Columbia University. Published fortnightly. Four dollars a year.

Vol. XXV. No. 4, February 16, 1928: From Experience to Nature: Irwin Edman. The Twenty-Seventh Annual Meeting of the American Philosophical Association: Helen Huss Parkhurst. No. 7, March 29: Some Meanings of Meaning in Dewey's *Experience and Nature*: Everett W. Hall. What has Beauty to do with Art?: C. J. Ducasse. Once More as to the Status of Data: Durant Drake. No. 8, April 12: The Paradox of Judgment: J. Loewenberg. A Hypothesis of Realms: George P. Conger. No. 9, April 26: A New Herakleiteanism: Charles M. Perry. Value and the Individual: Henry Nelson Wieman. No. 10, May 10: The Logic of the Case Method: C. F. Taeusch. Necessity: A. Cornelius Benjamin. No. 11, May 24: Some Difficulties in Current Value Theory: Charner M. Perry. The Esthetic of Leo Stein: George Boas. Professor Lovejoy's Carus Lectures: W. P. Montague. No. 12, June 7: Light, Wave-Mechanics, and Consciousness: Oliver Reiser. Postulates of Empirical Thought: Henry Bradford Smith. Mr. Montague on the Relativity of Truth: Donald A. Piatt. No. 13, June 21: A Note on Method in the Psychology of Religion: Gardner Murphy. Meaning and Existence: John Dewey. Behaviourism and Metaphysics: Flora I. MacKinnon.

PHILOSOPHISCHER WELTANZEIGER. Edited by Paul Feldkeller. Schönwalde (Niederbarnim) bei Berlin. Price: 40 Pfg. or yearly (6 numbers) Mk. 2.00.

Vol. II. 1928. No. 1: Das Neue Japan und die Philosophie: Professor H. Minami (Tokio). Cosmic Creation (Professor S. Alexander's Lecture in the British Academy): A. H. Hannay. Der kalifornische Personalismus: Paul Feldkeller. Raffaels Freske "Die Philosophie" (genannt "Die Schule von Athen").

ARCHIVIO GENERALE DI NEUROLOGIA, PSICHIATRIA E PSICO-ANALISI. Edited by M. Levi-Bianchini. Official Organ of the Italian Psycho-Analytic Society. Teramo, Italy. Annual Subscription: 8 dollars.

Vol. VIII. No. 4. December, 1927. Interpretazione psicoanalitica d'un episodio della "Teresa Raquin" di E. Zola: G. Dalma. Osservazioni sui poteri mitoplastici e simbolici dell'Inconscio (attraverso all'analisi del Sogno): M. Levi-Bianchini. Il X Congresso Psicoanalitico Internazionale: M. Levi-Bianchini.

JOURNAL OF PHILOSOPHICAL STUDIES. Edited by S. E. Hooper. Published quarterly for the British Institute of Philosophical Studies, by Macmillan & Co., London. Price: 3s. 6d.

Vol. III. No. 10, April, 1928: Morality as an Art: Professor S. Alexander. The Philosophy of Melchior Palágyi (II): Professor W. R. Boyce Gibson. Instinct and Moral Life: Louis Arnaud Reid. The Conception of Liberty: C. Delisle Burns. The Ethics of Communism: Professor John Laird. The Limits of Historical Knowledge: R. G. Collingwood. Vol. III. No. 11, July, 1928: On the Discovery of Good—A Dialogue: G. Lowes Dickinson. Analysis of Some Ethical Concepts: C. D. Broad. Peace Without Victory—in Philosophy: Professor R. B. Perry. The Marriage of Universals (I): G. R. G. Mure. Some Modern Proofs of the Existence of God: Professor G. C. Field. The Value of Philosophy to Religion: The Bishop of Manchester. Philosophy and Life: C. E. M. Joad.

The ECONOMIC RECORD. Journal of the Economic Society of Australia and New Zealand. Melbourne University Press. Price: 5s.

Vol. IV. No. 6, May, 1928: Financial Relations of the Commonwealth and the States: R. C. Mills. Labour Mobility in Australian Industry: F. R. E. Mauldon. New Zealand Infant Mortality and Still Births: Malcolm Fraser. Relative Significance of Primary and Secondary Production: C. H. Wickens. The Economic Position of the Farmer in New Zealand: H. Belshaw. Australian State Income Tax Schemes: W. F. Murphy. The Law of Diminishing Returns in Agricultural Experiment: J. A. Prescott.

THE INTERNATIONAL JOURNAL OF PSYCHO-ANALYSIS. Official Organ of the International Psycho-Analytical Association. Baillyrière, Tindall & Cox, London. 30s. per annum.

Vol. IX. Part 2. April, 1928: Fetishism: Sigmund Freud. Early Stages of the Oedipus Complex: Melanie Klein. Lectures on Technique in Psycho-Analysis (concluded): Edward Glover. An Anxious Mother: Sándor Radó.

MEDICAL RESEARCH COUNCIL'S REPORTS. H.M. Stationery Office, London.

No. 45. 1928. Price: 2s. 6d. Two Contributions to the Experimental Study of the Menstrual Cycle: I—Its influence on Mental and Muscular Efficiency. II—Its Relation to General Functional Activity. No. 49. Price: 1s. 3d. On the Relief of Eye Strain among Persons Performing Very Fine Work. No. 50. Price: 1s. The Physiological Cost of the Muscular Movements Involved in Barrow Work.

REVISTA DI FILOSOFIA NEO-SCOLASTICA. Direction and Administration at Milan, via S. Agnese, 4. Subscription L. 28.30.

Vol. XX. No. 1: La Filosofia di Herbart: Emilio Chiocchetti. Il pensiero storiografico di Bossuet: Silvio Vismara. Relazione reali e relaxioni ideali: Gustavo Bontadini. La filosofia di Alfarabi: Robert Hamui. Discussioni gnoseologische: Giuseppe Zamboni.

THE MORPETH REVIEW. A Review of Life and Work. Edited by E. H. Burgmann and R. S. Lee, S. John's College, Morpeth. Price: 2s. a copy, or 7s. 6d. a year.

No. 4. June, 1928: The Problem of Life: E. H. Burgmann. The Christian Religion and Primitive Culture: H. R. Holmes. The Naturalness of Sacraments: The Rt. Rev. J. S. Hart. Australia's Future Population: Professor Griffith Taylor. Musty Musings: W. Ashley Brown. The Religion of the Schoolboy: W. H. Irwin. The Religion of the Schoolgirl: D. L. Poole. The Quest of the Orchid: H. M. R. Rupp.

Music and Tears: Olive Cross. The Field of the Economic Geographer: C. H. Doyle. Philosophy in Europe: H. N. Baker. The Mind and Face of Bolshevism: W. Coleman.

THE MUSES' MAGAZINE. A monthly review of the Musical, Artistic, Literary, Scientific and Intellectual Life of Queensland. Hall of the Muses, George Street, Brisbane. Subscription: 12s. per annum.

WELFARE WORK. The Journal of the Institute of Industrial Welfare Workers, 29 Gordon Square, London, W.C.1. Price: 5s. per annum.

THE MEDICAL JOURNAL OF AUSTRALIA. Published weekly by the Australasian Medical Publishing Co., Seamer Street, Glebe, Sydney. Price: 1s.

This Journal frequently contains articles of interest to our readers on psychiatry and psychological medicine.

BOOKS RECEIVED.

MORE ESSAYS OF TO-DAY. An Anthology, selected by F. H. Pritchard. George G. Harrap & Co., London. Price: 2s. 6d.

This selection of essays appears in Harrap's Modern English Series in which the first volume of Essays of To-day previously appeared. It is a series of thirty-four essays by writers such as J. C. Squire, George A. Birmingham, A. P. Herbert, George Saintsbury, Philip Guedalla, Stephen Gwynn, "A.E." Stephen Graham, John Masefield, Osbert Sitwell, Dean Inge, Jerome K. Jerome, J. T. St. Loe Strachey, Alec Waugh, James Milne, H. J. Massingham, Robert Blatchford and others. A very representative selection.

ENGLISH LITERARY PROSE IN THE MAKING. By Constance Bullock. George G. Harrap & Co., London; 1928. Price: 3s.

This is a collection of extracts illustrating the chief stages in the development of prose style. Miss Bullock, having used the extracts in a series of lectures on style delivered to the senior pupils of Belstead High School, found in the girls such a ready appreciation of the characteristics of the various styles that she was encouraged to collect the extracts into their present published form. There is a helpful Introduction, exercises after each extract, some useful Notes, and a Glossary.

LISTEN AGAIN, CHILDREN. By Stephen Southwold. George G. Harrap & Co., London; 1928. Price: 3s. 6d.

A series of 35 stories (not threadbare ones) for children. There is also an introduction containing useful hints about the relating of stories.

NOTES AND NEWS.

At the Annual Meeting of the Wellington Local Branch held on March 16, the following officers were elected: President, Sir Robert Stout; Vice-Presidents, Dr. Ada Paterson, Rev. Dr. Gibb, Professor T. A. Hunter, Professor W. H. Gould, and P. Fraser, Esq., M.P.; Secretary, Dr. I. L. G. Sutherland; Treasurer, E. Beaglehole, Esq., M.A.; Committee, Dr. Helen Bakewell, Misses F. Roberts and O. M. Sheppard, M.A., and Messrs. C. A. Batt, D. J. Donald and H. G. Miller, M.A. At the conclusion of the business Dr. T. A. Gray, Inspector-General of Mental Hospitals, gave an address on "Mental Deficiency and its Treat-

ment" in which he traversed the main lines of his recent report to the Government on this subject. Questions and discussion followed. Other meetings of the Branch have been as follows: June 14—E. Beaglehole, Esq., M.A.: "Some Psychological and Social Aspects of Propaganda." July 19—A Symposium on "The Cinema" contributed to by Dr. Ada Paterson, Rev. Dr. Gibb and Professor W. H. Gould. All the meetings held this year have been well attended and good discussions have followed the reading of the papers.

Mr. E. Beaglehole, M.A., who has been Treasurer of the Wellington Local Branch and an active member of it, has been awarded a Post-graduate Scholarship in Arts by the University of New Zealand and is proceeding to London University to continue the study of psychology.

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THE Sixth Annual Meeting was held at Melbourne University on Thursday and Friday, May 17 and 18, when the following papers were read:

Thursday—

- Rev. W. Ryan: "Metaphysics and Einstein."
Professor J. Anderson: "Truth."

Friday—

- Professor H. T. Lovell: "Judgment in Relation to Personality."
Acting Professor W. A. Merrylees: "Virtue and Knowledge."
Professor J. A. Gunn: Presidential Address—"Art, Beauty and Value."

There was an attendance of from sixty to eighty at each of the four sessions, and all the papers, except the last, were followed by discussion in which a gratifying diversity of view was exhibited. A resolution of thanks to Dr. A. H. Martin for his services to the Association as Secretary, was passed unanimously.

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A Canterbury Local Branch of the Association has been formed at Christchurch, N.Z., with an initial membership of twenty-four and with the following office-bearers:

President: Professor C. F. Salmond.

Vice-Presidents: Professor J. Shelley, Dr. R. R. D. Milligan, Rev. Gardner Miller, Bishop West-Watson.

Secretary-Treasurer: Mr. H. E. Field, Canterbury College, Christchurch.

Committee: Dr. C. E. Beeby, Messrs. G. Lawn, W. Colee, A. C. Brassington.

Three meetings have already been held, at the first of which the Presidential Address was delivered on "Some Aspects of Modern Thought," the second being a symposium on "The Relation of Religion to Modern Knowledge," and the third a discussion of the Mental Defectives Amendment Bill at present before the New Zealand House of Representatives.

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Three meetings of the Sydney Local Branch of the Association have been held this year, and, after a depressing start, attendances have greatly improved. Papers have been read by Mr. P. C. Nelson on the question "Is Matter Perceptible?" Dr. F. C. Benham on "The Concept of Social Progress," and Mr. E. R. Walker, B.A., on "The Foundations of Belief in God." It is to be regretted, in view of the interesting material provided, that a greater attendance of local members of the Association is not secured, and that there have been so few participants in discussion. It is hoped that the fourth meeting on September 20, to be addressed by Professor Angus on "Greek Religion," will show improvement in these respects.